CANAL RECORD

VOLUME 3

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1910.

MOUNT HOPE, CANAL ZONE
ISTHMIAN CANAL COMMISSION PRINTING OFFICE
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CANAL RECORD

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NOTES OF PROGRESS.

Rock Breaker at Work.

In an article relating to the Lobnitz rock breaker at work in the Pacific entrance to the Canal, which was published in The Canal Record of last week, a statement was made that is likely to be misleading. It was said:

> "One complete operation occupies but 15 seconds when the machinery is working steadily," and "the area of rock broken while the barge is in one location is a circular space about five feet in diameter. The ram crushes the rock to a depth of three feet."

As a matter of fact the raising and lowering of the ram occupies about 15 seconds. This, however, does not constitute a complete operation as the records so far show that the ram may have to be raised and lowered from fifteen to eighty times to penetrate the rock to a depth of three feet. The depth of the penetration at each blow depends on the character of the rock to be shattered. Complete detailed records are being kept of the work performed and the results achieved, which will be published when completed.

Locks and Plants at Miraflores.

Regular excavation operations continue at Miraflores Locks. On the west side a small slide developed in the earth section which has been checked by a concrete toe wall and rip-rap, and this method will be used wherever necessary. Several feet were added during August to the west toe of the dam, and only a small amount of dumping is now required to bring it to the 60-foot level, which is the ultimate height. The suction dredge *Sandpiper* worked all of August adding to the hydraulic fill in the dam core.

Concrete work at the cement shed is entirely finished, and the traveling cranes are in position and will be ready for service within a few days. About 60,000 bags of cement are now stored in the shed, which has a capacity of 70,000 barrels, or 280,000 bags. Bags found in good condition when emptied will be shipped back to the States. The storehouse office has been equipped with cement testing machines and other apparatus to be used in connection with the work.

At the Miraflores power house, the switchboards are all in position, and one of the units is nearly ready for a trial. The boiler work is well along and the smokestack has been placed. On the west side fronting the railroad track an arched facing has been made of concrete on which will be lettered the words "Miraflores Power House, 1909."

The unusually dry weather that has been experienced in the territory of the Pacific Division during the past ten days has accelerated the Canal work in a marked degree.

Limited Accommodations at Boquete.

David, August 26, 1909.

Col. Geo. W. Goethals,
Culebra, C. Z.:

Accommodations for no more than twenty men and no women and children in Boquete at present.

(Signed) G. D. Hubbard,
C. P. Gibson,
Dr. C. G. Phillips,
Frank Fernandez.

Unloading Heavy Cargo.

One of the largest pieces of cargo ever handled on the Isthmus was a Scotch marine boiler, weighing 98,560 pounds, which was taken from the hold of the *Cristobal* on her last voyage and sent to Balboa where it will be placed in the Panama railroad tug *Bolivar*. As the ship's tackle was not strong enough to take the boiler from the hold an "A" frame was rigged up to lift it on deck. Its flues were then plugged and it was rolled overboard. It was lifted from the water to a flat car by the crane boat, *A. Lavalley*.

New Suction Dredge.

Requisition has been made for the machinery for an 18-inch suction dredge to be used in excavating in the prism of the Canal between Mindi Hills and Gatun Locks, and in making the fill at Colon, which is projected as part of the sanitary improvements under the appropriation for sanitation of the cities of Colon and Panama. Borings between Mindi Hills and the north end of Gatun Locks show that the material can be handled by suction dredge, and there are about seven million cubic yards of it, including excavation in the mooring basin immediately north of the locks. The project for filling at Colon has not yet been approved. The machinery of the dredge includes two boilers, a triple expansion engine, and centrifugal pump. It will be mounted on the hull of the old French ladder dredge, *No. 4*, one of the dredges found on the banks of the Chagres River at Frijoles and utilized in the Canal work.

LOCK BUILDING BEGUN.

First Concrete Laid at Gatun and Pedro Miguel.

GATUN.

The building of Gatun Locks was begun on August 24, when the handling and mixing plants were set in motion and the first concrete was laid. Only one of the three power units is in operation, and the capacity of this unit will not be reached until necessary adjustments are made in the automatic electric railroad, which carries materials from the storage to the concrete mixers. The concrete is being placed in the foundation of the center wall which will divide the two south, or upper locks.

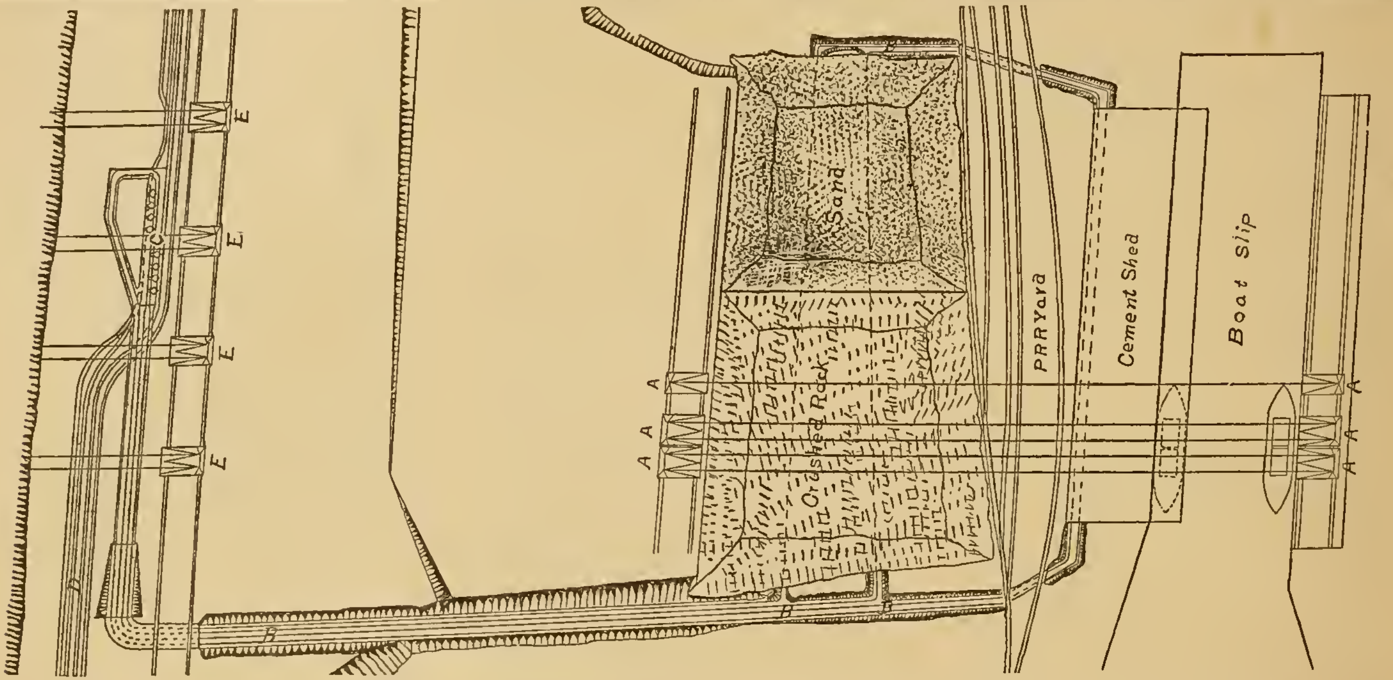
Excavation was begun in October, 1906, and on July 31, 1909, there had been taken out 3,640,011 cubic yards of material. There remained to be removed about 1,500,000 cubic yards, most of it in the middle and lower lock chambers. Work on the plant for mixing and handling concrete dates from September, 1908, when excavation for the power house was begun. The plant has a maximum capacity of 1,920 cubic yards of concrete in eight hours.

There will be six locks in three pairs at Gatun, making the lift from sea level to 85 feet above sea level. Each lock will be 110 feet wide, have a usable length of 1,000 feet, and there will be 41⅓ feet of water over the sills when the surface of Gatun Lake is at the normal height of 85 feet above mean sea level. The concrete construction includes the locks and approach walls, and it is estimated that in all about 2,096,000 cubic yards will be laid.

The method of handling the materials for concrete and of conveying the concrete itself to the place where it is laid, involves three distinct operations. The first of these is the assembling of materials. It is estimated that 2,250,000 barrels of cement will be required for the concrete in Gatun Locks. The cement is shipped to New York from the manufacturer's plant in Northampton, Pa., after it has been tested by an agent of the Government, and is brought to the Isthmus in ships owned by the Government. From the docks in Colon or Cristobal it is carried in barges up the old French canal to the cement storage dock at Gatun. There it is unloaded by electric cranes and stored. Rock is quarried and crushed at Porto Bello, a village on the north coast of the Isthmus about 17 miles east of Colon, and is towed in barges to Cristobal, and thence up the French canal to Gatun. Sand is dredged at Nombre de Dios, also a north coast village about 35 miles east of Colon, and is towed in barges to Gatun. Two duplex and one single unloading cableway—five strands of cable in all—extend over the slip in which the barges tie up, and the rock and sand are picked up by clam-shell buckets and conveyed to a storage pile. An electric railway runs underneath the cement storehouse, under the rock and sand storage piles, and up to the battery of concrete mixers. Cars pass along this railway and are charged in succession with cement, sand and rock, in proportions of 1, 3, and 6, thus completing the operation of assembling the materials.

In the second operation, that of mixing the concrete, the loaded cars run up an incline to a platform over the mixers where the material is dumped. There are eight mixers, so mounted that they dump by gravity into tip buckets. These buckets are carried on cars that run on a railway track along the west bank of the lock site.

After the concrete is dumped onto a car, an electric locomotive, fed by the third rail system, takes it to any point along the lock site. The full buckets are lifted from the cars by cableways that stretch across the lock site, and are lowered into the chamber at the spot where it is desired to lay the concrete. Each locomotive hauls out a train of two cars, each car carrying one loaded bucket. An empty bucket is placed on each car by each strand of the duplex cableway, and the loaded buckets are then hoisted. The empty buckets are then hauled back to the mixers for another load. Twelve locomotives and 24 cars are in use when the plant is running at full capacity. The buckets are nicely balanced and can be tipped with slight effort. Power for all the operations is supplied from an electric power plant. Delivering the concrete and placing it form the third operation.



LAYOUT OF HANDLING AND MIXING PLANT, GATUN LOCKS.

A Cableways for unloading rock and sand.
B Automatic electric railway from cement, sand, and rock storage to mixers.
C Concrete mixers.
D Electric railroad on bank above lock site, for hauling concrete to lock cableways.
E Cableways over lock site for delivering concrete in locks.

DETAILS OF THE PLANT.

Additional details about the plant follow:

Unloading Cableways.—These cableways are of the same construction as those over the locks, details of which are given below. They operate with self-digging automatic grab buckets of the two blade type, 70 cubic feet capacity, and convey rock and sand from barges to the storage piles. There are five strands of cable in all, two duplex and one single. The maximum carry is 675 feet.

Cement Dock and Storage Piles.—The cement dock has a frontage of 490 feet along a slip that leads from the old French canal, and is 110 feet wide. Cement is unloaded from barges by ten traveling cranes of the three-motor type. One hundred thousand barrels of cement, more than a month's supply, can be stored here. Over the tracks on which the material cars run are 30 hoppers for cement, each hopper with a valve 15 by 30 inches. The cement is dumped into the hoppers and the valves regulate the charging. The material cars run beneath the sand and rock storage piles in two tunnels, and the cars are charged with sand and rock in the same way as with cement. There are 22 valves, each 15 inches square under the sand pile, and 46 valves 15 by 30 inches under the rock pile.

Railroad from Storage Piles to Mixers.—Two railroads of 24-inch gauge lead from the cement dock and storage piles to the concrete mixers, the total length of each road being about 4,700 feet. The railroads are entirely separate from one another, as the object of their being in duplicate is that one may be in service while the other is undergoing repairs. The cars in which the materials are carried are individually driven by three-phase motors chain geared to the axles, taking an alternating 25-cycle current of 220 volts from two inverted collecting rails laid between the traction rails. Each car is started, stopped, or reversed by the operation of a master switch, so located that it can be controlled from either side. When this switch is thrown the car starts and automatically comes up to speed, and whether traveling on the level or on the heaviest grade on the mixer plant incline the speed never varies more than ten per cent. When the empty cars descend the grade from the mixers to the storage piles their motors are reversed into generators and power is returned to the line. Automatic magnetic brakes stop the cars in case of accident and thus anticipate collisions. The cars are built of steel, are divided into two compartments, one for sand and concrete, and one for rock, and have a capacity of 80 cubic feet. They are of the hinged, side door type and when over the hoppers of the mixers their doors are opened by hand. Forty-two of these cars are ready for service.

Mixing Plant.—Eight improved Chicago cube mixers of 64 cubic feet capacity each, belt driven from shafts capable of making 180 revolutions a minute, with 14 revolutions a minute for the cube, compose the mixing plant. These mixers are erected above the level of the cars into which they discharge. They are charged by gravity, that is, the material cars run up an incline to a platform over the mixers where they dump into charging hoppers of 90 cubic feet capacity, so designed as to throw the materials into the mixers. The mixers receive and discharge their load without stopping or slowing down, and one operator controls the charging and discharging. The mixers are mounted in one file eight deep, and four of them discharge over a railroad on the east side, and four over a road on the west of the mixing plant.

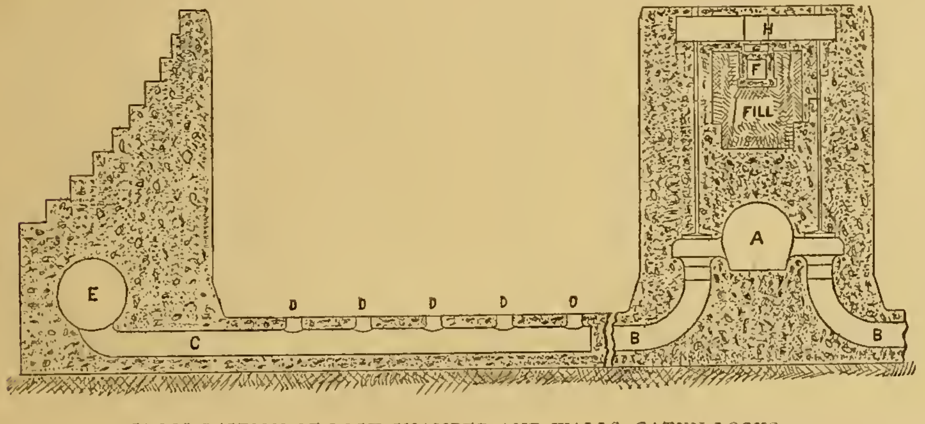
Concrete carrying railroad.—A railroad of four tracks runs along the west bank of the locks, two tracks on either side of the mixer plant. A train, consisting of a locomotive and two flat cars, each car carrying one bucket, stops alongside two of the mixers and receives concrete from them. It then runs to the point on the bank where the cableway is waiting, and the cableway deposits two empty buckets and picks up the loaded ones. The train then backs up on the return track and waits its turn to switch alongside the mixers. There are 12 locomotives and 24 flat cars in this service. The locomotives are 12 feet long, 6½ feet wide and 5½ feet high above the deck. They have single trucks with rigid wheel base, and a required draw-bar pull of 2,000 pounds. They are propelled by two reversible, waterproof, railway motors, one on each axle, taking current from a third rail. The cars are built entirely of steel, are 18 feet long and 7 feet wide, with the deck 2 feet 8 inches above the rails, and are mounted on double trucks of eight wheels with a four-foot base. Each car has a receptacle for two buckets, and will carry a load of 12 tons.

Cableways over the lock site.—There are eight of these cableways arranged in pairs, each pair stretching from a steel tower on the west bank of the locks to a similar tower on the east bank, a distance of 800 feet. The towers are 85 feet high above the tracks on which they move along the banks above the lock site. Each of the tail towers on the east bank moves synchronously with the tower opposite it on the west bank, and the movement of each pair is controlled from the control station in the head tower on the west bank. The carrying cable is a locked steel wire 2¼ inches in diameter, and on this cable a traveler is pulled back and forth over the lock chamber. On the traveler is a pulley through which runs a cable to lift material and drop it. The maximum distance the traveler is required to run is 670 feet, the greatest lift 170 feet, and the carrying capacity is not less than six tons, with 20 trips an hour. In all these respects the cableways exceed the requirements. The machinery for operating is mounted in the head towers on the west bank of the lock site. It consists of a motor of 150-horsepower to turn the hoisting and conveying cable drums, a motor of 25-horsepower to run the dumping device, and a motor of 25-horsepower in both head and tail towers to propel the towers. One man operates a cableway, controlling all the movements by switches located on a platform on each head tower. In addition to delivering concrete in the locks the cableways will be used to lift material from the lock site and dump it by an aerial dumping device, to handle forms for the concrete work, and to handle the parts of the gates and the gate operating machinery.

Power Plant.—Power is supplied by an electric generating plant, a detailed description of which was given in THE CANAL RECORD of April 28, 1909. Six water tube boilers of the Keeler type, each with a nominal rating of 400-horsepower and generating steam at 205 pounds absolute pressure and 150 degrees Fahrenheit of superheat, supply steam to three Curtis, 1500-k. w., vertical steam turbine base condenser generators. The plant is modern in all respects. After the Canal is completed this plant will be used as an auxiliary to the hydraulic power plant for operating the locks.

LAYING THE CONCRETE.

The concrete laying for months to come will be confined to the upper locks. Excavation for the curtain walls is carried on by rock channelers and orange peel dredges, and is almost completed. Floor anchors have been placed in about a half of the east lock and the excavation in the chambers of the upper locks is practically done. The plan to be followed in laying the floor was discussed at length in the report published in THE CANAL RECORD of July 14, 1909. The summary of the report is as follows:



CROSS SECTION OF LOCK CHAMBER AND WALLS, GATUN LOCKS.

A Culvert in center wall.
B Connections between center and lateral culvert.
C Lateral culvert.
D Wells opening from lateral culverts into lock chamber.
E Culvert in side wall.
F Drainage gallery.
G Gallery for electric wires.
H Passageway for operators.

> That the floor of all that part of the chamber lying below the sill of the upper pair of upper lock gates should be treated as belonging to the lock, and the portion above that sill as belonging to the forebay.
>
> That the floor and walls of the forebay from the sill of the movable dam to the sill of the upper duplicate lock gates should be founded at reference plus 4, and that the floor there should be made 20 feet thick.
>
> That from the upper surface of the sill of the upper duplicate lock gates to and including the sill of the intermediate gates, the excavation for the floor and walls should be carried to plus 0.67.
>
> That this part of the floor should be made of uniform thickness of 13 feet, and should be anchored down by rails spaced as nearly as practicable 6 feet apart, longitudinally and transversely.
>
> That the rails should be anchored by concrete to a least depth of 10 feet in the underlying material in the outer parts of each lock pit, and in the middle part the penetration should be from 15 to 20 feet, depending upon the material.
>
> That below the intermediate gate walls the foundations for the walls and floors should be trenched for the culverts, the floor between the culvert trenches being made three feet thick, and all floors anchored to the underlying material with rails penetrating not more than 10 feet.
>
> That a curtain wall 6 feet thick should be constructed along the sill of the emergency dam and the upper portion of the lock walls; the wall along the sill to be carried to reliable material, the least depth of the foundation to be minus 8, the walls along the lock walls to be founded at the depth of the foundation of the corresponding end of the cross curtain wall until the soft sandstone stratum is met, and thence at a depth of one or two feet below the surface dividing the soft sandstone and the argillaceous sandstone with tufa until the depth of minus 18 is reached.

FORMS FOR THE CONCRETE.

The concrete in the walls and floors must be laid with reference to the culverts which will be embedded in it for the purpose of carrying water in filling and emptying the lock chambers. There will be three main culverts extending the full length of the locks, one in each of the side walls and one in the middle wall. The side wall culverts will be 22 feet in diameter from the intake at the south end of the south, or upper locks, to a point 320 feet north, where they will be reduced to 18 feet, at which diameter they will continue to the end, a distance of about 3,500 feet. The bottoms of these culverts will be 2½ feet below the surface of the floor. The culvert in the middle wall will be 22 feet in diameter from its south end to a point 120 feet north where it also will be reduced to 18 feet, at which diameter it will continue to the end, a distance of about 3,600 feet. The bottom of this culvert will be in general 10½ feet above the surface of the lock floors.

Lateral culverts, in the form of an ellipse 6½ feet high and 8 feet wide will run in the floor from and at right angles to the main culverts at intervals of 32 and 36 feet, leading alternately from the side and middle culverts. The top of each lateral culvert will be 3 feet below the surface of the floor. Water will be delivered or collected by each lateral culvert through five openings or wells in the floor. Valves, which may be opened or closed either individually or all at one time, will be located at the intakes and outlets of the main culverts, and at the connections between the center culverts and the lateral culverts.

Forms for the culverts are made of open hearth boiler steel, are collapsible, are mounted on wheels to facilitate withdrawal, and are constructed to stand five years of continual use. For the main culverts in the side walls there are 21 forms in 12-foot lengths, each form weighing not less than 303,300 pounds. There are 12 forms for the culvert in the middle wall, each 12 feet long, and weighing not less than 177,000 pounds. There are 100 forms for the lateral culverts, each 10 feet long, and weighing not less than 217,000 pounds. All the culvert forms are being constructed by the Baltimore Bridge Company, and delivery will begin in a few weeks.

Forms for the valve recesses and openings in the floors were made at Gorgona foundry. There are eight sets of valve recess forms, made of boiler plate, and weighing 21,400 pounds each. The forms for the floor wells are made of cast iron and boiler plate, and weigh 61,000 pounds each. There are forty of these forms.

The floor and walls will be built up in monoliths. Forms for the floor are made of timber and are 50 feet long, 20 feet wide, and their height will vary with the thickness of the floor, which will be 20 feet in the south forebay and 13 feet in the south locks. These forms are built in the lock site and will be moved from place to place by the cableways.

The side walls will be 50 feet wide at the surface of the floor, will be perpendicular on the face, and will narrow from a point 24⅓ feet above the floor until they are 8 feet wide at the top. The narrowing will be accomplished by a series of steps each 6 feet high. The middle wall will be 60 feet wide, approximately 81 feet high, and each face will be perpendicular to the floor. At a point 42⅓ feet above the surface of the floor and 15 feet above the top of the middle culvert, this wall will divide into two parts, leaving a space down the center much like the letter "U," which will be 19 feet wide at the bottom. From this point the two parts of the center wall will be diminished by a series of five steps, six feet high and 4, 3, 2, 2, and 1½ feet wide, to a coping 8 feet wide at the top. In this center space, which will thus be 19 feet wide at the bottom and 44 feet wide at the top, will be a tunnel divided into three stories or galleries. The lowest gallery will be for drainage; the middle, for the wires that will carry the electric current to operate the gate and valve machinery, which will be installed in the center wall, and the top, a passageway for the operators.

Face forms for the side and center walls are of sheet steel carried on movable towers, also built of steel. Tracks will be laid as near to the line of the walls as possible, and on these tracks the towers will move up and down the lock chambers parallel with the walls. Jacks fixed to the towers and bearing on the forms will be used to align the forms and hold them in place. There will be twelve of these towers with forms 78 feet long from top to bottom, 36 feet wide, and 7½ inches thick. Tower and form will weigh at least 4,392,220 pounds. For the sides or ends of the wall monoliths, steel girders six feet high will be built up in succession to the full height of the wall before the placing of concrete is begun. For the backs of the walls steel girders with triangular bracing will be used. The forms and towers for the side and middle walls are being made by the United States Steel Products Company, and the delivery will begin in October.

PEDRO MIGUEL.

The laying of concrete at the Pedro Miguel Locks will be begun to-day, September 1, in the center guide wall at the lower, or south end. A portable cube mixer, operated by steam power, and having a capacity of 12½ cubic yards of material per hour is in temporary service in the mixing operations, and will be used until the stationary mixer plant, under erection on the bank of the west chamber, is completed. This plant is nearly finished and when ready for service will have a capacity of 500 cubic yards per working day. A similar plant will be constructed later on the bank of the east chamber. Both of these installations are temporary and will be used only until the handling plant on order and now overdue is received. Crushed rock for the concrete work is at present supplied from Rio Grande, but will come from Ancon quarry as soon as the plant there is started. The sand is brought from Chamé, 2,000 cubic yards having been piled at the lock site during the past few weeks.

Work on the handling plant in the forebay of the locks is making progress. The west trestle is entirely completed, but the ties have not yet been laid on the east trestle, which will take a week or ten days more. Nineteen small flat cars for use in transporting material from the handling plant to the locks had been assembled up to August 28. Considerable track work has been done along the floor of the forebay, and a small storehouse has been built for the storage of tools and miscellaneous supplies required at this point. The new 50,000-gallon tank, which will supply water to the mixers, has been filled. It is fed by a pipeline from the Rio Grande, about a quarter of a mile away, where a duplex boiler feed pump, having a capacity of 310 gallons of water per minute, has been installed.

A steam shovel is at work in the forebay, and in the west chamber of the locks, the excavation for the lateral culverts is being vigorously prosecuted. Most of the culvert excavation is in hard rock, which must be drilled and blasted. The spoil is shoveled by hand labor into large buckets, which are emptied into dump cars and otherwise manipulated by two locomotive cranes moving forward and backward on their tracks. A certain amount of pumping is necessary to handle the surface water and drainage from the earth. Two steam shovels are at work in the east chamber of the locks making the final cut, and the excavation there is near completion. A field office of the regulation Commission type has been constructed on the east bank for use of the supervising force.

Schedule of Trains on Labor Day.

Panama railroad trains will run on the Sunday and holiday schedule, as published in THE CANAL RECORD of August 18, 1909, on Labor Day, September 6. The first train from Panama to Colon will leave at 6.45 o'clock in the morning, and the last train at 9.40 o'clock at night. The first train from Colon to Panama will leave at 6.45 o'clock in the morning, and the last train at 7 o'clock at night. The special train for the Red Cross benefit will run as stated elsewhere in this issue.

Guarding Gatun Water Supply.

Distilled water is supplied to residents of Gatun, but the presence of typhoid fever among the negroes of the vicinity during the past few months shows that all the people do not use that water. On this account a patrol of the watershed of the Gatun River has been established and already extends to the Canal Zone boundary line. Latrines are being put in along both banks of the river at the isolated farm houses, and also in the hamlet called Monte Lirio and the Panama railroad construction camp of that name. These latrines are built some distance from the banks of the river and are inspected and disinfected twice a week. Between Gatun and Monte Lirio about fifty people are living, at Monte Lirio as many more, and at the construction camp about two hundred laborers are quartered. The precautions against pollution will be continued until water is available from the new reservoir, east of Gatun, which will be within the next year.

Navel Orange Tree at Bearing Stage.

The only navel orange tree known to exist in the Canal Zone is at the Ancon nursery. It is of the species familiar to horticulturists as *Citrus Aurantium*, and was imported as a cutting from California about three and a half years ago. Several other cuttings were brought to the Isthmus at the same time, but none of them arrived at maturity. The cutting from which the present tree has developed was grafted on sour stock, and by judicious fertilization both the tree and fruit exhibit a vigorous and healthy growth, although the tree is somewhat undersized. The fruit, however, is unusually large, and it has been found necessary to cut away some of it to remove the danger of the branches breaking under the weight. The first crop will number 15 or 20 oranges, and the largest one, now nearly ripe, will easily weigh a pound. The others are in various stages of development, some green and others beginning to show a golden color.

Grass Cutting Contest.

A grass cutting contest will be held at 10 a. m., Labor Day, at Ancon. Eleven teams of two men each have been entered from the various scythe gangs of the Quartermaster's Department. Plots of ground approximately 200 square yards have been laid off for each team. In selecting the winners, speed and quality of work will be the determining factors. The following prizes will be given: First, $10 gold, and silver medal; second, $5 gold; third, $2.50 gold.

This contest was proposed at the instance of some of the Spanish scythemen from the Ancon District, who believed they were superior to men from the other districts. The contest has already excited considerable interest among the Spaniards employed in this class of work and it is believed the contest will be a close one.

Herrera Acquitted.

Marcelino Herrera, a Panamanian, was acquitted of the charge of killing Charles M. Abbott in the riot at Colon on May 10, by a jury of three judges in the circuit court at Cristobal on August 27. He was tried under the procedure prescribed in Section 171 of the Code of Criminal Procedure for the Canal Zone, the judges sitting in the case being Associate Justice Lorin C. Collins, and District Judges M. C. Rerdell and Thomas E. Brown, Jr.

LOST—On train No. 31, in Panama, on August 22, one folder pocket book containing one hotel meal book, one $10 commissary book, partly used, one refund note on Las Cascadas commissary for $5.60, cards, etc. Finder will oblige by returning same to R. V. Mudgett, Las Cascadas, C. Z.

COAL UNLOADING.

Crane at Mount Hope to be Moved—Receipts for Fiscal Year 1908.

The coal unloading crane at Mt. Hope will be moved in the near future from the slip at Cristobal Dry Dock to Dock 14, a short distance from its present location. As now located the crane runs alongside the dry dock slip, and colliers must tie up in the slip to discharge cargo. In the new location it will run along the bank of the French canal at right angles with its present course, and the boom will extend over Dock 14, at which the colliers will tie up. This change will relieve the congestion in the dry dock slip and add to the convenience of working at the marine shops.

All the coal used on the Isthmus is unloaded at Mt. Hope. The average is about 7,000 tons a week, which means that about two colliers are unloaded each week and that the dock where they tie up is always occupied. This coal is brought from Hampton Roads by the Panama Railroad Company under a yearly contract calling for delivery on the Isthmus at a flat rate regardless of the prevailing prices for charters. In the fiscal year 1908 the amount brought to the Isthmus was 368,331 tons, and of this amount 262,375 tons were used by the Commission. The Panama railroad sells coal also to United States Government ships calling at either side of the Isthmus, to merchantmen, and to private customers.

On account of the uncertainty of the output of coal during the holiday season a reserve is accumulated in the piles at Mt. Hope and Empire during the fall months, and the deliveries during the ensuing two months will therefore be considerably above the average. By the end of October over ten thousand tons will be in reserve on the Isthmus.

Obituary.

Oscar Malmros, who was United States consul at Colon at the time the independence of the Republic of Panama was proclaimed, died at Rouen, France, on August 18. He had been in the consular service since 1865, having been appointed from Minnesota, and held the post at Colon for about two years.

Michael Coogan died at Colon Hospital on August 25, after an illness of about five months. He was born in Ireland 39 years ago and had resided on the Isthmus about three years. At the time of his last illness he was engaged on suction dredge No. 85 at Gatun. A brother, John Coogan, of County Monaghan, Ireland, survives him.

Meals at the Washington Hotel.

In the month of July, 12,071 meals were served at the Washington Hotel in Colon, 1,922 of which were *a la carte* meals. The regular meals were served without a loss, and there was a profit on the meals served to order. All operating expenses including fuel, light, water, repairs and renewals to equipment, and stationery and printing were charged against the meals.

Laborers for Canal Work.

The cement ship *Ancon*, which sailed from New York for Colon on August 19, and called at Barbados, where 1,500 laborers were taken aboard on August 27, will dock at Colon on September 2. The laborers are West Indian negroes and they will be used in replenishing the force at various points along the Canal.

MONEY ALLOTMENTS FOR 1909-10.

Amounts Assigned for Carrying on Work in the Various Departments.

Money available for carrying on the Canal work during the present fiscal year has been allotted in accordance with the schedules printed below. The total amount appropriated by Congress for Canal work in the year 1909-10, is $33,638,000, and the unexpended balance from 1908-9 is $4,877,000, making the amount of money available $38,515,000. The allotments represent money available for all expenditures during the fiscal year; that is, they cover all obligations such as unpaid bills, undelivered material now on order, and requisitions issued for which contracts had not been awarded on July 1, 1909. According to classes of expenditure the allotments are as follows:

Employes in the United States	$150,000
Incidentals in the United States	75,000
Officers and employes, Department of Construction and Engineering	3,700,000
Skilled and unskilled labor, Department of Construction and Engineering	13,627,600
Material, supplies and equipment, Department of Construction and Engineering	13,005,400
Equipment, Panama railroad	700,000
Miscellaneous expenses, Department of Construction and Engineering	1,592,000
Officers and employes, Department of Civil Administration	600,000
Skilled and unskilled labor, Department of Civil Administration	20,000
Material, supplies and equipment, Department of Civil Administration	205,000
Officers and employes, Department of Sanitation	740,000
Skilled and unskilled labor, Department of Sanitation	430,000
Material, supplies and equipment, Department of Sanitation	890,000
Relocation, Panama railroad	1,980,000
Improvement, cities of Panama and Colon	800,000
Total	$38,515,000

The allotments to the Department of Construction and Engineering are divided as follows:

Central Division	$7,850,000
Pacific Division	7,318,000
Atlantic Division	8,962,000
Office of Chairman and Chief Engineer	486,000
Mechanical Division	3,410,000
Quartermaster's Department	2,355,000
Department of Disbursements	78,000
Department of Examination of Accounts	240,000
Subsistence Department	62,000
General expense	1,163,000
Total	$31,924,000

• That part of the allotment to the Quartermaster's Department which relates to new building and repairs to buildings has been divided as follows:

NEW CONSTRUCTION.

Subsistence Department	$37,000
New corral at Ancon	17,000
Conversion of silver camps	20,000
Conversion of gold quarters	39,000
New construction of quarters	100,000
Y. M. C. A., Gatun	25,000
Miscellaneous buildings	12,000
Total	$250,000

REPAIRS TO BUILDINGS.

Office buildings	$12.500
Hotels	20,000
Quarters (gold)	190,000
Kitchens (silver)	6,000
Quarters (silver)	18,000
Commissaries	3,000
Baths, closets, and washhouses	6,000
Shops	18,000
Storehouses	10,000
Clubhouses	4,000
Lodge halls	2,000
Old French buildings	60,000
Miscellaneous buildings	25,500
Total	$375,000

The notice of allotment, as sent to the heads of the various Departments and Divisions, is accompanied by three detailed statements, of which the above statements are abstracts. Attention is called to features of the statements as follows:

It will be noted that the allotments for the construction divisions do not include funds to take care of charges against them for work performed by the Mechanical Division, as the Mechanical Division has been granted a special allotment. Any expenditures of the Mechanical Division, on account of any division, in excess of the items which go to make up the total for the Mechanical Division, would, of course, have to be taken care of out of the allotment for the division thus benefited.

It will also be noted that on July 1, there was an unobligated balance under the appropriation for material, supplies and equipment, and for plant, for the Department of Construction and Engineering, of less than two million dollars, which shows that care must be taken during the present fiscal year so as not to incur greater liabilities, unless the work performed is greater than that contemplated at the time the estimates were prepared, in which case such work must be specifically stated in support of a deficiency, should one be necessary. Work should be so laid out and carried on as to keep within the allotments during the fiscal year, for such work as was originally estimated. Any deficiencies must be supported by evidence to show that a greater amount of work will be done than was covered by estimate submitted.

Earthquake Shocks.

Seismic disturbances were recorded on the instruments at Ancon Observatory on August 28 and 30. On the 28th, four distinct shocks were recorded, all of minor intensity, the first occurring about 11 a. m., and the last, at a little past 5 p. m., none of these being accompanied by any preliminary tremors.

On the morning of the 30th, about 8 a. m., a shock of pronounced intensity occurred, the tremors continuing for about twenty minutes. The vibrations were sufficient to throw the pens from the cylinders of the high-tension instruments. This disturbance was felt by many persons at various points in the Zone, and almost immediate inquiries were made at the meteorological office from Ancon, Alhajuela, and Gatun. At the latter place, the clock in the fluviograph station was stopped, presumably by the disturbance.

Many slight records from supposed earth disturbances have appeared on the seismographs, but the shock of August 30 is the most severe that has been experienced since American occupation.

No building in Panama, or Colon, or in the Canal Zone villages was damaged by the earthquake. The flat arch in the ruins of the church of Santo Domingo in Panama, which is the evidence most often cited in proof of the statement that severe earthquake shocks have never occurred on the Isthmus, was unshaken, and the ruins of other churches, although in a weakened condition, withstood the shock. Advices from various parts of Panama indicate that the earthquake was felt throughout the Republic, but so far as can be learned, no damage was done.

Canal Zone Residence and Citizenship.

THE CANAL RECORD:

Will you please advise me if a British subject can take out naturalization papers here on the Canal Zone? I have been three years on the Canal Zone. I am an Englishman, but it is my intention to become a citizen of the United States, if possible.

IRWIN VURNON STANFORD.

[Residence in the Canal Zone is not considered residence in the United States within the meaning of the naturalization law.]

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., September 1, 1909.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Catlin, W. R.
Connell, F. O.
Conner, Luther L.
Drake, Cresswell C.
Freedman, Sam D.
Furtasto, Y. P.
Griswold, George
Holman, C. A.
Jordan, Mrs. Ellenor
Leonard, Coupl Jos. J.
MacSparran, Miss Gladys
Marcotte, Mrs. H. J.
McCall, L. C.
Nitzer, Jr., Wm. A.
Peter, John G.
Read, Jno.
Selby, F. C.
Silicco, Ogustin
Steele, W. D.
Thomas, Dr. J. Oliver
Tucker, Mr. and Mrs. Herman F.
Wahlund, Charles (2)
Wilkins, Robert (4)
Winter, Oscar
Nilsen, Captain S. (2d class.)

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal, Colon and Balboa, during the week ending August 28, with supplies for the Isthmian Canal Commission:

Prinz Aug. Wilhelm, August 23, from New York, with 41 cases axes; 18 barrels creosote oil; 62 barrels coal tar; 9 barrels sulphate of copper, for stock.

Advance, August 24, from New York, with 1,000 barrels cement; 125 cases bronze wire cloth; 4,500 short handle shovels, for stock; 2,500 feet B. M. mahogany lumber for car repairs; 13 cases electrical appliances for relay dredging pumps at Balboa, and a miscellaneous cargo aggregating 2,400 packages, weighing 600 tons.

Atenas, August 26, from New Orleans, with 15 crates track drills; 30 push cars; 21,000 pounds rosin; 77 crates gate valves, for stock; 8,310 feet lumber for car repairs.

Hornellen, August. 25, from Seattle, Wash., with 1,130,469 feet B. M. Douglas fir lumber for Atlantic and Mechanical Divisions.

STATEMENT OF CLASSIFIED EXPENDITURES TO JUNE 30, 1909.

The following table shows expenditures for Canal work, classified monthly, since July 1, 1908. The figures give only expenditures which have been located. In addition, there have been some disbursements, such as purchasing material, etc., which it will not be possible to locate to a specified account until their use has been finally determined:

Period.	Department of Civil Administration.	Department of Sanitation.	Department of Construction and Engineering.	Municipal Improvements.	Plant Account.	Total.
Prior to July 1, 1907	$1,446,407.73	$4,636,630.37	$13,410,795.01	$4,296,732.98	$19,345,697.87	$43,136,263.96
Fiscal year 1908	704,610.15	2,310,212.01	16,680,660.46	1,494,956.41	11,684,215.15	32,874,654.18
Fiscal year 1909:						
July, 1908	84,898.15	197,963.07	1,452,698.88	91,901.17	544,083.23	2,371,544.50
August, 1908	77,019.80	145,870.37	1,599,556.90	60,798.76	517,046.09	2,400,291.92
September, 1908	69,867.03	129,725.40	1,636,253.17	52,809.20	703,633.09	2,592,287.89
October, 1908	59,612.51	155,676.68	1,448,614.64	67,696.17	727,544.14	2,459,144.14
November, 1908	59,374.12	147,957.24	1,369,805.86	77,406.64	480,139.10	2,134,682.96
December, 1908	65,526.32	166,321.70	1,500,404.77	70,936.43	893,337.24	2,696,526.46
January, 1909	51,416.82	164,605.80	1,550,843.72	68,209.51	1,418,185.90	3,250,261.75
February, 1909	60,782.04	139,368.18	1,453,781.43	54,105.63	596,564.67	2,304,601.95
March, 1909	60,130.85	127,669.50	1,611,343.85	39,267.70	776,821.41	2,615,233.31
April, 1909	66,846.14	146,515.18	1,480,566.68	56,617.86	1,072,221.29	2,822,767.15
May, 1909	63,161.61	136,521.29	1,604,437.10	48,168.74	667,335.95	2,519,624.69
June, 1909	63,297.79	136,678.61	1,511,859.69	44,310.78	861,026.65	2,617,173.52
Total	2,932,951.06	8,741,715.40	48,311,622.16	6,520,917.98	40,287,851.78	106,795,058.38

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

The Hearons Sisters Concert Company of New York will arrive on the Isthmus September 9, and their initial performances will be as follows: September 11, Cristobal; September 13, Culebra; September 14, Gorgona; September 16, Empire; September 17, Gatun; September 18, Ancon. Subsequent dates will be announced later. The personnel of the company is: Anna Hearons, piano; Frances Hearons, violin; Charlotte Hearons, clarinet; Winifred Hearons, cornet and reader. Their programs are varied, but the following is a sample of what will be given:

PART I.

1. Orchestra (a) *Hungarian Dance*......Brahms
   (b) *Intermezzo Sinfonico*..Mascagni
2. Group of Readings......................Selected
3. String Quartet March..................Farrand
4. Violin "Concerto"......................De Beriot
5. Orchestra Fantasie—*Southern Airs*..........*Ross*

PART II.

1. Glassaphone Selection............................
2. Reading—*The Village Seamstress* ....Kate Douglas Wiggin
3. Song—*Spanish Serenade* (with stringed quartet).
4. Violin (a) *Madrigal*.................Simonett
   (b) Selected............................
5. Japanese Sketch................................

A tally-register count of the clubhouse attendance was taken for a period of two weeks ending August 27. Notwithstanding that during the entire period some parts of the Cristobal clubhouse were closed for repairs, the total attendance for the four clubhouses averaged 1,441 per day. The lowest attendance for any one day was 1,205, and the highest was 1,743.

CULEBRA.

The bowling alleys have received special preparation for the tournament which begins Saturday, September 4.

The interest and attendance in the gymnasium continues to increase. The work consists chiefly of systematic building-up exercises, and recreative games. Men desiring to enter these classes may do so on any Monday, or Wednesday evening.

Mr. S. R. D. Kramer, assistant secretary, is acting as secretary during the absence of Mr. Goodman who went on annual leave August 28.

EMPIRE.

The bowling team has elected as its captain, C. J. Huson. The first game in the new tournament will be rolled at Empire on Saturday night, September 4 with the team from Cristobal. The men who rolled 200 or better between August 1 and 28 are—Bardelson, 207; Brown, 217; Edwards, 207, 210, 214, 219; Hinckley, 200, 201, 202, 208; Huson, 200, 201, 210, 213, 217; Goolsby, 202; Potter, 202, 203; 213; Robbitt, 201, 208, 223.

In a bowling match last Friday evening a team from the office of the Master Mechanic won two out of three games from the Post-office team, the score being: Master Mechanic's Office—836, 739, 814, total 2,389. Post-office—631, 805, 800, total 2,236.

Gymnasium activities occupy every night of the week, but men wanting systematic exercise are invited to join the regular class in physical training which meets Tuesday and Friday evenings from 7.30 to 9 o'clock.

The boys' department will have an outing on the beach at Panama on Saturday, September 4. Each boy is requested to bring his own lunch.

GORGONA.

Mr. E. P. Daupline is office assistant evenings during the absence of Mr. Swanson, who is on his annual vacation leave.

In a bowling contest between Gorgona and Gatun the following scores were rolled: Gorgona—760, 724, 745; Gatun, 859, 752, 682. Messrs. Lasker, W. J. Wright, Hall, Sprechen and McConaughey represented Gorgona against Messrs. Durond, Bailey, Wickham, E. A. Wright and Hertz of Gatun.

The monthly song service last Sunday evening was well attended. Two special selections were given by the mixed quartet composed of Mrs. Bergstrom, Mrs. Snyder, Mr. Cole and Mr, Sweet. Mrs. Beetham was pianist. The address by Mr. Minear of Culebra was received with interest. A marked feature of the evening was the singing by the audience.

Mr. Grosse leads in the billiard tournament with Mr. Prentiss second. Mr. Jones leads in the pool tournament.

Members are invited to suggest books that they desire added to the library.

CRISTOBAL.

The Cristobal clubhouse has been in the hands of the painters the past month and has undergone a thorough renovation and transformation in its appearance. The walls of the lobby, game room, pool room, entertainment hall and reading room have been painted light green trimmed with white. The barber shop, lavatories, bath room, locker room and bowling alleys have been painted entirely in white. The floors have been stained and varnished. The veranda floors also have been painted. The entire building has been decorated with pictures, prints, and curtains. New rugs are expected shortly to complete the furnishing.

An alteration has been made in the office arrangement, giving more room and permitting an additional section of book shelves. The library has been overhauled and the books have been renumbered and catalogued by authors and by titles. The new books recently received are in great demand.

"Captain Racket" presented by the Gorgona Dramatic Club last Saturday evening, drew a larger audience than could be accommodated. All the seats were sold, the verandas were filled with standing spectators, and a number were turned away.

PERSONAL.

Lieut.-Col. Geo. W. Goethals sailed for the States on the Hamburg-American steamship *Prinz August Wilhelm* on August 31.

Mr. W. G. Comber, Resident Engineer at Balboa, returned from his leave of absence in the States on August 29.

Mr. F. A. Gause, the new Superintendent of Schools, arrived at Cristobal on the *Allianca* on August 29.

Tivoli Club Officers.

The annual meeting of the Tivoli Club was held on August 29, when the following officers were elected for the ensuing year:

President, Thomas M. Cooke; First Vice-President, Col. W. C. Gorgas; Second Vice-President, Dr. J. C. Perry; Secretary and Treasurer, Hugh S. Hunter; members to act with officers as a board of governors, C. M. Brown and D. W. MacCormack.

Church Notes.

Weekly meetings for the club of Marines at Camp Elliott have been instituted, instructive discussions being led by the Rev. Carl H. Elliott. A course on Old Testament characters is held at the Camp on Tuesday evenings.

The Cristobal Union church has contributed the sum of $51 gold, toward the building fund of the negro Wesleyan Methodist church in Gatun.

Gatun Masonic Club.

Master Masons are cordially invited to attend any and all business and social meetings held by the Gatun Masonic Club. The regular meetings are held every Monday evening in the Gatun lodge hall.

GEORGE H. FURBISH,
Assistant Secretary and Treasurer.

Gatun, August 24, 1909.

Notice to Kangaroos.

Hereafter it will be necessary for all Kangaroos to show a membership card at the door in order to gain admission to the regular monthly dances given on the first Saturday evening of each month by Empire Court No. 1, at Kangaroo Hall in Empire.

E. W. STOLBERG,
Comptroller.

Empire, August 16, 1909.

Band Concert.

The I. C. C. Band will give its regular concert at the Hotel Tivoli in Ancon on the night of Sunday, September 5.

Married.

FREEMAN-HACKENBERG—At Gorgona, on August 24, by Rev. Wm. Gray, Bernice Genevra Hackenberg, daughter of Mr. and Mrs. A. L. Hackenberg of Gorgona, formerly of Akron, O., to Floyd C. Freeman of Culebra, formerly of Chaffee, N. Y.

RED CROSS BENEFIT.

Gorgona Dramatic Club at National Theater on Labor Day.

The Gorgona Dramatic Club, which has presented "Capt. Racket," a three act farce comedy, at Gorgona, Empire, Culebra, Bas Obispo, Cristobal and Gatun, will present the play at the National Theater in Panama, on the evening of Labor Day, September 6, under the auspices of the Gorgona branch of the Canal Zone Red Cross.

A special train will leave Colon at 5.30 p. m. on the day of the performance and returning will leave Panama at 11.30 p. m. Stops will be made at all stations in both directions. Tickets on the special train may be procured at all Commission clubhouses, and from committees in the towns in which no clubhouses are located. The fare from any station on the line will be $1.50 gold, and will include admission to the theater, where the tickets will be exchanged for numbered seat checks.

Residents of Panama, Ancon and Balboa can obtain tickets of Mr. Harry Bovay, Ancon, or at the theater on the evening of the performance. To residents of the above-mentioned places, the price of admission will be $1 gold.

All seats may be reserved upon application, excepting those in the gallery, to which the general admission is fifty cents gold. Private boxes, seating eight persons, may be procured at $12 gold each.

Tickets are for sale by the following people: G. C. Mitchell, Secretary, Y. M. C. A., Cristobal; D. Sinclair, Chairman, Red Cross Association, Gatun; J. H. Humphrey, District Quartermaster, Tabernilla; Thos. S. Booz, Acting Secretary, Y. M. C. A., Gorgona; District Quartermaster, Bas Obispo; W. K. Freeland, Chairman, Red Cross Association, Las Cascadas; E. R. Gobrecht, Secretary, Y. M. C. A., Empire; F. G. Goodman, Secretary, Y. M. C. A., Culebra; R. R. Watson, Chairman, Red Cross Association, Pedro Miguel; Harry Dundas, Chairman, Red Cross Association, Paraiso; A. R. Bennett, District Quartermaster, Corozal; Harry Bovay, Chairman, Red Cross Association, Ancon.

At each of the places mentioned tickets will also be on sale by members of the Red Cross Association.

Ball Game at Ancon Park.

A baseball game was played at Ancon park Sunday forenoon, August 29, between a team made up of employes of the Department of Sanitation, and a team from the Department of Civil Administration. The contest was fairly close up to the seventh and last inning when the Civil Administration team took a strong lead and won the game. Score by innings:

							Total.
Sanitation—	0	0	1	0	0	2	0—3
Civil Admin.—	2	0	0	0	0	3	13—18

Batteries—Civil Administration, Russell and Rex; Sanitation, Weling and Ramsey.

The winning team has been challenged to play a picked nine from the Pacific Division.

Odd Fellows.

Ancon Club, I. O. O. F., holds regular sessions each Thursday evening at the Ancon Lodge hall. During the first part of the session non-members are admitted. This is followed by a session of members only, at which time the regular club business will be transacted.

COMMISSARY DEPARTMENT.

Consignment of Peaches, Plums and Cherries Received—Cold Storage Price List.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

The *Allianca* brought peaches, plums, and cherries, and celery, lettuce and other vegetables, on her recent trip from the States.

A shipment of grapes, peaches, plums, cherries, and apples is expected on the *Cristobal*, which is scheduled to leave New York on September 2.

A consignment of watermelons is expected on the *Turrialba*, due to arrive from New Orleans on September 2.

Retail prices of cold storage provisions for the week beginning September 1.

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Steak	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	27
Chops	per lb	29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	20
Cutlets	per lb	23
Pork cuts	per lb	22
Beef—Suet	per lb	4
Soup	per lb	6
Stew	per lb	10
Corned	per lb., 12, 14,	16
Chuck roast	per lb	14
Pot roast	per lb	16
Rib-roast, second cut (not under 3½ pounds)	per lb	19
Rib-roast, first cut (not under 3 pounds)	per lb	21
Sirloin roast	per lb	22
Rump roast	per lb	22
Porterhouse roast	per lb	22
Steak, Chuck	per lb	15
Round	per lb	16
Rib	per lb	21
Sirloin	per lb	22
Porterhouse	per lb	22
Rump	per lb	22
Tenderloin	per lb	27

MISCELLANEOUS.

Livers—Beef	per lb	11½
Calf	each	65
Shad roes	pair	40
Sausage—Pork	per lb	17
Bologna	per lb	17
Frankfurter	per lb	17
Leberwurst	per lb	17
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	30
Eggs, fresh	dozen	32

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 90,	1.00
Ducks, fatted	each	1.30
medium weight	each	90
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese, fatted, about 10 pounds	each	2.00
12 pounds	each	2.30

CURED AND PICKLED MEATS.

Bacon—Breakfast, whole piece	per lb	23½
Breakfast, sliced	per lb	§26
Ham—Sugar-cured, sliced	per lb	§25
One-half, for boiling	per lb	§21
Hocks	per lb	‡8
Sugar cured	per lb	20
Beef, salt, family	per lb	10
Pork, salt	per lb	15
Ham, boiled	per lb	28
Ox tongues	each	1.00
Pigs' feet	per lb	14
tongues	per lb	16

DAIRY PRODUCTS.

		Price.
Butter—Prints, prime quality	per lb	38
Cheese—Roquefort	per lb	45
Philadelphia Cream	each	20
Young America	per lb	22
Swiss	per lb	31
Edam	each	1.05
Camembert	per lb	28
Neufchatel	each	6
Gouda	per lb	34
Parmesan	bottle	20
French cheese in tins—Camembert, Brie, Neufchatel	1-lb tin	20
Milk, Briarcliff	bottle	**25
Butter	bottle	**15

VEGETABLES AND FRUITS.

Celery	per hd	10
Cauliflower	per lb	15
Lettuce	per lb	8
Potatoes, white, old	per lb	3¼
sweet	per lb	2½
Onions	per lb	3
Squash, Hubbard	per lb	5
Yams	per lb	3½
Turnips	per lb	3½
Carrots	per lb	5
Beets	per lb	5
Potatoes, new	per lb	3½
Rhubarb	per lb	5
Cucumbers	per lb	7
Tomatoes	per lb	7½
Lemons	dozen	24
Limes	per 100	80
Watermelons	each	40
Canteloupes	each	5
Cabbage	per lb	4½
Pineapples	each	15
Oranges	dozen	12
Grapefruit	each	4

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending September 8, 1909 (75th meridian time):

DATE.	Low.	High.	Low.	High.	Low.
	A. M.	A. M.	A. M.	P. M.	P. M.
Sept. 2	....	4.58	11.15	5.20	11.36
Sept. 3	....	5.42	M. 12.00	6.04	....
Sept. 4	12.20	6.26	P. M. 12.48	6.50	....
Sept. 5	1.08	7.12	1.35	7.38	....
Sept. 6	1.58	8.01	2.28	8.31	....
Sept. 7	2 54	8.56	3.27	9.30	....
Sept. 8	4.00	10.03	4.36	10.52	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Rainfall, August 1 to 28, 1909, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Division—			
Cristobal	4.75	25	14.50
Brazos Brook	2.24	25	10.43
Gatun	4.58	13	9.76
Bohio	2.47	13	9.92
Central Division—			
Tabernilla	1.62	3	9.57
San Pablo	1.52	3	8.85
Gorgona	1.37	7	8.21
Gamboa	1.16	7	6.74
Empire	1.85	3	7.09
Camacho	1.88	4	7.93
Culebra	2.19	3	7.79
Pacific Division—			
Rio Grande	1.88	3	8.54
Pedro Miguel	2.11	22	8.64
Balboa	1.98	3	5.99
Ancon	1.75	3	5.81
Atlantic Coast—			
Porto Bello	2.19	9	12.13
Nombre de Dios, (August 1 to 21)	2.43	3	10.09
Upper Chagres—			
El Vigia	1.43	4	10.51
Alhajuela	1.27	3	7.65

The following steamers arrived at or departed from Balboa during the week ending August 27, 1909:

Arrived—August 23, *Aysen*, from South ports, *Quito*, from intermediate ports; August 24, *Arica*, from Guayaquil; August 25, *Hornellen*, from Puget Sound, *U. S. S. Vicksburg*, from Central America; August 26, *Newport*, from San Francisco, *Barracouta*, from Central America. Departures—August 24, *Loa*, for South ports.

LOST—On Sunday, August 22, between the Hotel Tivoli and Hotel Central in Panama, a purse containing several money order receipts, and two Cadiz Bank deposit slips. Finder please mail purse and contents to J. G. Blane, Balboa, C. Z.

OFFICIAL CIRCULARS.

Acting Chairman and Chief Engineer.

CULEBRA, C. Z., August 30, 1909.

CIRCULAR NO. 271:

During my absence from the Isthmus, Lieut.-Col. H. F. Hodges will be in charge of the work, as Acting Chairman and Chief Engineer, effective August 31, 1909.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

CULEBRA, C. Z., August 30, 1909.

CIRCULAR:

Lieut.-Col. H. F. Hodges, second Vice-President, will be in charge of the affairs of the Panama Railroad Company, and Panama Railroad Steamship Line, on the Isthmus, during my absence, effective August 31, 1909.

GEO. W. GOETHALS, *President.*

Acting Subsistence Officer.

CULEBRA, C. Z., August 25, 1909.

CIRCULAR NO. 269:

During the absence from the Isthmus of Maj. E. T. Wilson, Subsistence Officer, Isthmian Canal Commission, all his duties in connection with the Subsistence Department Isthmian Canal Commission, and the Commissary Department, Panama Railroad Company, will be performed by Lieut. F. O. Whitlock, Assistant Subsistence Officer, Isthmian Canal Commission.

GEO. W. GOETHALS,
Chairman Isthmian Canal Commission,
President Panama Railroad Company.

No Refund for Lost Commissary Books.

CULEBRA, C. Z., August 24, 1909.

CIRCULAR NO. 256-A:

The attention of employes is called to the following paragraph of instructions printed on the inside cover of all commissary books:

> If this book is lost immediate notice should be given to the Subsistence Officer, and Local Auditor of the Panama Railroad Company, but it is understood that neither the Isthmian Canal Commission nor the Panama Railroad Company will be responsible or reimburse owner for the value of such unused coupons if book is not recovered.

Hereafter, in the case of the loss of a commissary book from any cause whatsoever, the loss must be borne by the employe, and no refund for the value of unused coupons will be authorized.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Commissary Books.

CULEBRA, C. Z., August 26, 1909.

CIRCULAR NO. 256-B:

When the present supply of $10 commissary books shall have been exhausted, books of a value of $5 and $15 only will be issued to gold employes, and books of a value of $2.50, $5 and $15 to silver employes. These books will contain sufficient coupons of small denominations to meet the demands in this respect.

In accordance with Paragraph 5 of Circular No. 256, not more than one book of the $5 denomination will be issued in any one month to a gold employe whose salary exceeds $100 per month.

GEO. W. GOETHALS, *Chairman.*

Labor Day a Holiday.

CULEBRA, C. Z., August 28, 1909.

CIRCULAR NO. 270:

Labor Day, Monday, September 6, 1909, will be observed as a holiday throughout the Canal Zone, and as far as possible all work will be suspended on that day.

GEO. W. GOETHALS, *Chairman.*

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight Saturday, August 28, 1909:

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun (Canal.)	Gatun (W. D.)
Height of low water ab. m'an sea-level, ft.	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Aug. 22	131.2	96.4	51.8	8.2	3.7	3.4
Monday, Aug. 23	130.7	96.2	51.2	10.2	4.4	3.7
Tuesday, Aug. 24	129.9	95.6	51.2	9.6	4.4	3.2
Wed'esday, Aug. 25	129.1	95.6	50.7	8.4	3.6	2.7
Thursday, Aug. 26	127.9	94.6	49.6	7.1	3.3	2.5
Friday, Aug. 27	128.6	94.8	49.4	6.7	3.6	2.8
Saturday, Aug. 28	134.0	98.2	53.8	7.2	2.8	2.5

CANAL DIRECTORY.

ISTHMIAN CANAL COMMISSION.

Lieut.-Col. Geo. W. Goethals, U. S. A., Chairman, Culebra.
Lieut.-Col. H. F. Hodges, U. S. A., Culebra.
Lieut.-Col. D. D. Gaillard, U. S. A., Empire.
Maj. Wm. L. Sibert, U. S. A., Gatun.
Civil Engineer H. H. Rousseau, U. S. N., Culebra.
Mr. Jo C. S. Blackburn, Ancon.
Col. W. C. Gorgas, U. S. A., Ancon.
Mr. Joseph Bucklin Bishop,
Secretary, Ancon.

DEPARTMENTS.

Construction and Engineering.

Headquarters, Culebra.

Lieut.-Col. Geo. W. Goethals, Chairman and Chief Engineer.
William Howard May, Secretary to the Chairman.
M. B. DePutron, Assistant to the Chairman.
C. A. McIlvaine, Chief Clerk.
John K. Baxter, Assistant Chief Clerk.
H. S. Farish, Surveying Officer.
Caleb M. Saville, Assistant Engineer.

Lieut.-Col. H. F. Hodges, Assistant Chief Engineer.
C. O. Carlson, Secretary.
Edward Schildhauer, Electrical and Mechanical Engineer.
Henry Goldmark, L. D. Cornish, H. F. Tucker, T. B. Mönniche, Edward C. Sherman, Designing Engineers.

Civil Engineer H. H. Rousseau, Assistant to the Chief Engineer.
J. C. Parsons, Secretary.
A. B. Nichols, Office Engineer.

Central Division.

Headquarters, Empire.

Lieut.-Col. D. D. Gaillard, Division Engineer.
Louis K. Rourke, Assistant Division Engineer.
A. E. Bronk, Chief Clerk.
A. S. Zinn, Resident Engineer.
Mark W. Tenny, Assistant Engineer.
R. W. Hebard, Assistant Engineer.
W. L. Thompson. Assistant Engineer.

Atlantic Division.

Headquarters, Gatun.

Maj. Wm. L. Sibert, Division Engineer.
Maj. Chester Harding, U. S. A., Assistant Division Engineer.
R. M. Sands, Chief Clerk.
Maj. Edgar Jadwin, U. S. A., Resident Engineer.
Maj. J. P. Jervey, U. S. A., Resident Engineer.
Capt. G. M. Hoffman, U. S. A., Assistant Engineer.
Capt. Horton W. Stickle, U. S. A., Assistant Engineer.
L. G. Thom, Assistant Engineer.
F. C. Stanton, Assistant Engineer.

Pacific Division.

Headquarters, Corozal.

S. B. Williamson, Division Engineer.
John M. G. Watt, Assistant Division Engineer.
J. C. Keller, Chief Clerk.
W. G. Comber, Resident Engineer.
A. I. Campbell, Resident Engineer.
H. O. Cole, Assistant Engineer.
Frank Cotton, Assistant Engineer.

Mechanical Division.

Headquarters, Culebra.

Geo. D. Brooke, Superintendent of Motive Power and Machinery.
F. W. Doty, Chief Clerk.
Earle J. Banta, Mechanical Engineer.
A. L. Robinson, Electrical Engineer, and Master Mechanic, Gorgona Shops.
W. O. Johnson, Master Mechanic, Empire Shops.

Subsistence.

Headquarters, Cristobal.

Maj. Eugene T. Wilson, U. S. A., Subsistence Officer.
Lieut. Frank O. Whitlock, U. S. A., Assistant Subsistence Officer.
W. F Shipley, Chief Clerk.
John Burke, Manager of Commissaries.

Quartermaster's.

Headquarters, Culebra.

Maj. C. A. Devol, U. S. A., Chief Quartermaster.
Lieut. R. E. Wood, U. S. A., Assistant Chief Quartermaster.
Lieut. Walter D. Smith, U. S. A., Constructing Quartermaster.
C. H. Mann, Chief Clerk.
Capt. Courtland Nixon, U. S. A., Depot Quartermaster, Mount Hope.
Wm. H. Macfarlane, Inspector of Construction and Repairs.
C. L. Parker, C. C. McColley, Inspectors.

District Quartermasters.

Wm. A. Schwab, (acting), Ancon and Balboa.
A. E. Witty, (acting), Bas Obispo.
A. R. Bennett, Corozal.
Ira A. Giles, Cristobal.
John M. King, Culebra.
Walter G. Ross, (acting), Empire.
W. B. Dorsey, (acting), Gatun.
R. C. Shady, Gorgona.
W. A. Evans, (acting), Las Cascadas.
Roy R. Watson, Pedro Miguel and Paraiso.
M. D. Smith, Porto Bello.
J. H. Humphrey, San Pablo and Taheruilla.

Civil Administration.

Headquarters, Ancon.

Jo C. S. Blackburn, Head of the Department.
H. D. Reed, Executive Secretary.
G. A. Ninas, Chief Clerk.

Tom M. Cooke, Chief, Division of Posts, Customs and Revenues, Ancon.
Herman A. Gudger, Deputy Collector, Ancon.
E. Lewis Baker, Deputy Collector, Cristobal.
George M. Shontz, Prosecuting Attorney, Ancon.
Grosvenor A. Porter, Chief of Police, Ancon.
D. E. McDonald, Chief Clerk.
C. E. Weidman, Fire Chief, Cristobal.
Geo. H. Ruggles, Supt of Public Works, Ancon.
C. R. Sargent, Chief Clerk.
J. J. Reidy, Asst. Supt. Public Works, Cristobal.
Frank A. Gause, Superintendent of Schools, Ancon.
Edgar P. Beck, Treasurer of Canal Zone, Empire

Canal Zone Judiciary.

Headquarters, Ancon.

Supreme Court—H. A. Gudger, Chief Justice.
Walter Emery, Clerk, Ancon.
Lorin C. Collins, Associate Justice, Cristobal.
Wesley M. Owen, Associate Justice, Empire.
Circuit Court, First Circuit—H. A. Gudger, Judge, Ancon.
Walter Emery, Clerk.
Circuit Court, Second Circuit—Wesley M. Owen, Judge, Empire.
Elbert M. Goolsby, Clerk.
Circuit Court, Third Circuit—Lorin C. Collins, Judge, Cristobal.
Nelson R. Johnson, Clerk.
M. C. Rerdell, Senior District Judge, Cristobal.
S. E. Blackburn, District Judge, Ancon.
Edgar S. Garrison, District Judge, Empire.
J. B. March, District Judge, Gorgona.
Thomas E. Brown, Jr., District Judge, Cristobal.

Sanitation.

Headquarters, Ancon.

Col. W. C. Gorgas, Chief Sanitary Officer.
Lieut.-Col. John L. Phillips, U. S. A., Assistant Chief Sanitary Officer.
Capt. Robert E. Noble U. S. A., General Inspector.
Harry E. Bovay, Chief Clerk.

Maj. Charles F. Mason, U. S. A., Superintendent Ancon Hospital, Ancon.
Surgeon J. F. Leys, U. S. N., Superintendent Colon Hospital, Cristobal.
Surgeon, J. C. Perry, P. H. and M. H. S., Chief Quarantine Officer, Ancon.
Surgeon Claude C. Pierce, P. H. and M. H. S. Quarantine Officer, Colon.
Dr. Fleetwood Gruver, P. H. and M. H. S., Quarantine Officer, Panama.
Joseph A. LePrince, Chief Sanitary Inspector, Ancon.
Dr. A. E. Mayner, Acting Health Officer, Panama.
Dr. M. E. Connor, Health Officer, Colon.

Disbursements.

Headquarters, Empire.

Edward J. Williams, Disbursing Officer.
Wm. M. Wood, Assistant Disbursing Officer.

Examination of Accounts.

Headquarters, Empire.

W. W. Warwick, Examiner of Accounts.
T. L. Clear, Assistant Examiner of Accounts.

Purchasing Department.

Headquarters, Washington, D. C.

Capt. F. C. Boggs, U. S. A., General Purchasing Officer.
C. E. Dole, Chief Clerk.

Capt. Courtland Nixon, Purchasing Agent on the Isthmus.
Maj. Wendell L. Simpson, U. S. A., Purchasing Agent, 24 State Street, New York City.
F. C. Nordsiek, Assistant Purchasing Agent, 24 State street, New York City.
Lieut-Col. Geo. B. Davis, U. S. A., Assistant Purchasing Agent, Custom House, New Orleans, La.

Panama Railroad Company.

Headquarters, Colon.
(General offices, 24 State Street, New York.)

H. J. Slifer, General Manager, Colon.
G. E. Geer, Assistant to the General Manager.
R. Budd, Chief Engineer.
J. A. Smith, Superintendent.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO COLON.

Prinz Joachim	H.-A	Saturday	Aug. 28
Colon	P. R. R.	Saturday	Aug. 28
Cristobal	P. R. R.	Thursday	Sept. 2
Panama	P. R. R.	Friday	Sept. 3
Tagus	R.-M.	Saturday	Sept. 4
Advance	P. R. R.	Thursday	Sept. 9
Prinz Aug. Wilhelm	H.-A.	Saturday	Sept. 11
Allianca	P. R. R.	Wednesday	Sept. 15
Ancon	P. R. R.	Thursday	Sept 16
Oruba	R.-M.	Saturday	Sept. 18
Colon	P. R. R.	Tuesday	Sept. 21
Prinz Joachim	H.-A.	Saturday	Sept. 25
Panama	P. R. R.	Monday	Sept. 27
Cristobal	P. R. R.	Thursday	Sept. 30
Magdalena	R.-M.	Saturday	Oct. 2
Clyde	R.-M.	Saturday	Oct. 16
Thames	R.-M.	Saturday	Oct. 30

Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

COLON TO NEW YORK.

Ancon	P. R. R.		Sept. *
Allianca	P. R. R.	Friday	Sept. 3
Oruba	R.-M.	Wednesday	Sept. 8
Colon	P. R. R.	Thursday	Sept. 9
Prinz Joachim	H.-A.	Tuesday	Sept. 14
Panama	P. R. R.	Wednesday	Sept. 15
Cristobal	P. R. R.	Thursday	Sept. 16
Advance	P. R. R.	Tuesday	Sept. 21
Magdalena	R.-M.	Wednesday	Sept. 22
Allianca	P. R. R.	Monday	Sept. 27
Prinz Aug. Wilhelm	H.-A.	Tuesday	Sept. 28
Ancon	P. R. R.	Thursday	Sept. 30
Clyde	R.-M.	Wednesday	Oct. 6
Thames	R.-M.	Wednesday	Oct. 20

*Date of sailing to be announced later.

NEW ORLEANS TO COLON.

Turrialba	U.F.C.	Saturday	Aug. 28
Abangarez	U.F.C.	Saturday	Sept. 4
Atenas	U.F.C.	Saturday	Sept. 11
Turrialba	U.F.C.	Saturday	Sept. 18
Abangarez	U.F.C.	Saturday	Sept. 25

COLON TO NEW ORLEANS.

Turrialba	U F.C.	Tuesday	Sept. 7
Abangarez	U.F.C.	Tuesday	Sept. 14
Atenas	U.F.C.	Tuesday	Sept. 21
Turrialba	U.F.C.	Tuesday	Sept. 28
Abangarez	U.F.C.	Saturday	Oct. 5

COLON TO BARBADOS, CALLING AT TRINIDAD.

Tagus	R.-M.	Tuesday	Sept. 14

Sailings of the French line (Cie. Générale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Californian* for New Orleans, via Kingston, Ja., on or about September 10.

The steamers *David* of the National Navigation Company, and the *Taboga* of the Pacific Steam Navigation Company, leave Panama, for David, province of Chiriqui, and intermediate points, the first and third weeks of each month.

The Panama railroad steamships sail at 3 p. m. from dock at Cristobal direct to New York.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, SEPTEMBER 8, 1909. No. 2.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Canal Medals Here.

Two thousand two hundred and sixty-four Canal Medals were received September 3, on the *Colon*, and will be distributed this week to the men who earned them between May 4, 1904, and January 1, 1909.

Canal Record Index.

The index to Vol. II of THE CANAL RECORD, in form suitable for binding with the year's issues of the paper, will be ready for distribution shortly. It will be sent free, on application, to such persons, institutions, libraries, etc., as desire to preserve their copies of THE CANAL RECORD in book form.

For Colored Employes.

A building in the labor camp at Upper Caballo Viejo has been assigned to the Colored Young Men's Christian League of Gorgona, for use until it may be needed again for Canal purposes. This association has forty members.

The contract for a school building and colored institute at Culebra, near the colored church at that place, has been let for $1,850, this price being for work only, as the Commission furnishes the materials. The school building is to be completed by the time the public schools are opened in October.

Additions to Commissaries.

Plans have been prepared for a 15-foot addition to the north end of the Gorgona commissary. The ice platform located at the north end will be enclosed, and the addition, which will be used for storage purposes, will extend from it. A refrigerating room, 12 by 20 feet in size, will be erected in the rear of the commissary adjoining the new ice unloading platform, which will be built on the opposite side of the delivery track after the plan of the one at Gatun, so that ice can be unloaded on one side, and cold storage and miscellaneous supplies on the other. The commissary office will be changed to the center of the building and elevated one foot from the floor. A ventilating skylight will also be put in, and the windows on the sides of the commissary permanently closed, which will afford more shelf room.

An addition, 40 by 45 feet in size, will be made to the north side of the Empire commissary to give more storage space. The partition separating the present storeroom from the front part will be moved back nine feet, which will give more display space for goods. The refrigerating room will be moved to the southeast corner of the building, and the portion of the old storeroom still left will be connected with the new part by a door.

The improvements and changes at both commissaries will be made by the Commission forces.

Long Service of Atlantic Dredge.

Ladder dredge *No. 6* of the Atlantic dredging fleet has been taken to the Cristobal marine shops for extensive repairs after 18 months of continuous service in the Atlantic entrance to the Canal. This is one of the renewed French dredges, and its boilers and machinery are French material. It may be necessary to put in new boilers and machinery, but if it is not the old will be thoroughly overhauled. A cabin will be built on the deck.

Experimental Gardens and Landscape Work.

As the produce from the experimental gardens located at Ancon, Corozal, Pedro Miguel and Empire does not pay for the expense of conducting them, and as the money appropriated by Congress for the construction of the Canal cannot properly be drawn upon for work of this character, the gardens will be discontinued on October 1. No more planting is being done and only such work is now authorized as is necessary to bring the present crops to maturity. Only the experimental gardening will be discontinued. The landscape work which has been undertaken around the Canal Zone villages will be continued under the Quartermaster's Department, and will be gradually extended.

Laborers for Gatun.

Of the fifteen hundred laborers brought from Barbados by the *Ancon* on its recent voyage, eight hundred were assigned to the work at Gatun and the remainder were sent to various points along the line of the Canal.

Fossils Found in Culebra Cut.

Specimens of shells found in Culebra Cut, about fifty feet below the original surface of the ground at a point nearly half way between Empire and Culebra, have been sent to the Smithsonian Institution at Washington, in accordance with a request made by the secretary of the institution some weeks ago. The shells occur in very soft, coarse sandstone, which disintegrates and crumbles away rapidly on exposure to air and moisture, leaving the shells exposed. This is the only locality in Culebra Cut in which shells have been found during the past two or three years. The locality in question extends along the axis of the Canal about four hundred yards and the shells are found there in large numbers. Oyster shells predominate; in fact, a casual search disclosed only two other specimens.

Cold Storage at Ancon and Porto Bello.

Authority has been granted for the construction of small cold storage plants at Ancon and Porto Bello. Both of these places are isolated, Porto Bello from the ice making plant at Cristobal, and Ancon from the commissary refrigerator at Balboa. The Ancon project provides for a market to be located near the Hotel Tivoli to contain a cold storage box for meats, fruits, vegetables, and dairy products, and a similar box for the Hotel Tivoli. Refrigeration will be supplied by a small ammonia compressor. The refrigeration plant authorized for Porto Bello is similar to that for Ancon but smaller.

Opening of Public Schools.

The Canal Zone schools will open on Monday, October 4. Friday, October 1, will be spent by the teachers in preparing for the opening.

Recreation Hall at Corozal.

A site along the highway immediately north of the hotel has been selected for the recreation hall recently authorized for Corozal. The plans now under preparation vary somewhat from those originally made, the chief difference being that a veranda will surround the pavilion, affording an outdoor lounging place.

Work of Central Division Unloaders.

A statement of the work of Lidgerwood unloaders in the Central Division during the month of August follows:

DUMP.	No. of unloaders.	No. of trains.	No. of cars.
Balboa	3	769	13,997
Miraflores	3	696	12,691
Tabernilla	5	1,315	23,670
Total	11	2,780	50,358

Examination for Colored School Teachers.

An examination of applicants for appointment to the position of school teacher, class 3 (colored), in the Canal Zone will be held at Ancon school building on Friday, September 17, 1909. The morning session will open at 8.30 sharp, and close at noon; the afternoon session will open at 1.30 and close at 5. The subjects are arithmetic, hygiene, American history, geography, grammar, McMurray's Method of Recitation, reading, writing, and spelling. The grading of the last two subjects will be determined by the degree of efficiency and accuracy of the

NOTES OF PROGRESS.

(Continued.)

writing and spelling of the manuscripts in the other subjects. The reading examination will be oral. The examination is open to all and no special application need be made.

Any further information respecting the examination may be secured from the office of the Superintendent of Schools, Administration Building, Ancon.

Acting President of the Red Cross Society.

During the absence from the Isthmus of Maj. C. A. Devol, Lieut.-Col. John L. Phillips, treasurer of the Canal Zone Branch, Red Cross, will act as president.

Bachelor Quarters.

THE CANAL RECORD:

Will you please publish any circular or other authority for not allowing a bachelor employe to retain his quarters while on vacation? The release of quarters when going away is a matter of form which married employes with their families have to go through in the same manner, and their quarters are retained fifty-six days. Surely the bachelor is entitled to the same consideration. He has his bedding, clothes, books and other effects accumulated, which he cannot take with him and has to leave somewhere until his return. Under the present practice he has to pack his things away to get musty, whereas he could leave them with his room-mate, with whom in most cases he has become well acquainted and who would see them taken care of. Also, when he comes back now he has to room with a stranger in most cases, and according to District Quartermasters' notices posted up in the Ancon and Balboa quarters, no matter how distasteful, his room will not be changed except for the good of the service. To all appearances the quarters are not so crowded as to call for stringent regulations, and an employe being satisfactorily accommodated must be to the good of the service. BACHELOR.

Balboa, C. Z., August 26, 1909.

[At points where there are plenty of quarters available and where the rooms can be reserved without inconvenience, bachelors are allowed to retain their quarters while on vacation. There are some districts in which the supply of bachelor quarters does not permit this.]

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal, Colon and Balboa during the week ending September 4, with supplies for the Isthmian Canal Commission:

Salatis, August 28, from Puget Sound, with 1,107,832 feet B. M. lumber for buildings, etc.

Allianca, August 29, from New York, with 1,100 barrels cement for stock; 30,400 electric fuses for stock; 132 bundles lining bars for stock; 1,120 cross arms for Pacific Division; 2,000 pieces pipe casing for Pacific Division; 61 tons bar iron for stock; 108 tons wrought iron pipe for stock; 21 tons bolts and nuts for stock; 64 dredge castings for Pacific Division, and a miscellaneous cargo aggregating 6,983 packages, weighing 707 tons.

Vizcaina, August 31, from Baltimore, with 2 propeller wheels for Atlantic Division; 400 car wheels for Mechanical Division; 11 car bodies for Gatun handling plant; 350 bags tie plugs for stock; 118,275 feet B. M. white oak lumber for car repairs; 20,340 boxes dynamite for stock; 217 tons structural steel for Gatun Locks; 245 tons galvanized pipe for stock; 372 tons steel angles, plates, etc. for stock.

Ancon, September 2, from New York, with 17,981 barrels cement for Atlantic and Pacific Divisions; 10,400 bags cement for Atlantic and Pacific Divisions: 18 tons unloading crane parts for Balboa.

Colon, September 3, from New York, with 24 coils drill rope for churn drills; 25 coils air drill hose for churn drills; 15,200 electric fuses for stock; 7,750 gallons engine oil for stock; 7,000 gallons valve oil for stock; 20,000 quintuple caps for stock; 256 castings for Dredge No. 21; 1,000 barrels cement for stock, and a miscellaneous cargo aggregating 3,546 packages, weighing 540 tons.

Sibiria, August 31, from New York, with 9 tons copper tubes for stock.

Turrialba, September 2, from New Orleans, with 62 creosoted poles for Gatun plant; 82 packages electrical material and 45 coils wire for Gatun and Miraflores plants; 1,220 cases kerosene for stock; 107 barrels fire clay for stock; 234 cases fire brick for stock; 1 locomotive coaling crane for Mechanical Division; 153 tons material for Balboa rock crushing plant.

Fire at Corozal.

A small building, located in the rear of the laborers' quarters at Corozal, and used as an oil house by the District Quartermaster, was partially destroyed by fire at about 8.30 p. m., Thursday, September 2. The alarm was sent in by the policeman on duty, and the volunteer fire company responded promptly. The building contained kerosene, gasoline, and other inflammable materials. The damage, and loss on contents are placed at $180.

The fire was caused by a lighted match in the hands of the colored storekeeper, Arthur Clare, who was severely burned about the hands, face and thighs. Clare went into the place, unthinkingly ignited a match, and an explosion of gas which had collected instantly followed. He ran out of the building with his clothes ablaze, but had presence of mind to divest himself of his coat and to go to a hydrant under which he sat until he was thoroughly water-soaked. He was taken to Ancon Hospital for treatment.

Counterfeit Panamanian Coins.

A counterfeit of the Panamanian peso, which is equivalent to fifty cents in United States currency, has been discovered in circulation in the Canal Zone, and in the cities of Panama and Colon. Up to the present time, but few of these spurious coins have been turned in. The Disbursing Office at Empire received three from local banks, while one was received by the Canal Zone Police Department, which was given to the police sergeant at Bas Obispo by a butcher at that place, who said it had been paid to him by an unknown negro woman. The counterfeit is of very poor workmanship, and was apparently made on the Isthmus from a plaster of Paris mould. It is considerably deficient in weight, has the appearance of having been worn smooth, thus obliterating all the finer marks, and bears the date, 1904. On account of its short weight and general faulty appearance it should be easily detected.

Jacinto Escudero Acquitted.

The trial of Jacinto Escudero, the Panamanian charged with killing Charles Rand, acting chief boatswain mate on the U. S. S. *Buffalo*, was held in the Superior Court of Panama, on Thursday, September 2, before a jury of three persons, as is customary under the Panamanian law. Rand was stabbed on the night of September 29, 1908, in the city of Panama, the wounds inflicted causing his death the following day. The case was given to the jury Thursday afternoon, and after a little over an hour's deliberation a verdict of "not guilty" was returned.

GATUN SPILLWAY DAM.

Plans Approved for the Concrete Structure.

A concrete dam in ogee form with crest on the arc of a circle in place has been decided upon for the barrier in the spillway of Gatun Dam. The proportions are such that the nappe will adhere to the masonry, and the curve at the toe will be sufficiently long to prevent any great disturbance being caused in turning the water back to the horizontal direction. By using the curved crest line the energy of the fall may be utilized to destroy to some extent the velocity of the water. Additional positive check will be provided in the form of masonry baffles, for otherwise it would be impossible to predetermine the point below which regular flow will be established.

In selecting a location for the spillway by which the height of water in Gatun Lake will be regulated, a hill about midway between the ends of the Dam was chosen because in it the surface of the rock is about at sea level, and a good foundation was thus procured without excessive excavation. A channel 1,200 feet long and 300 feet wide has been excavated through the hill. This channel will be closed at its south or upstream end by a concrete dam, with foundation at sea level at the toe and at 10 feet above sea level at the upstream end. The dam will be 93.04 feet long from heel to toe, 630 feet long on the crest line across the channel, and the crest will be at 69 feet above sea level. It will contain about 140,000 cubic yards of concrete. On top of the concrete dam will be built the regulating works, plans for which have not yet been approved.

After study of the maximum flow to be cared for and the probable rate of discharge over a dam of the section shown and with the heads that will obtain, it was determined that 14 gates, each 45 feet wide, with sill elevation at 69 feet above sea level, will give absolute control of the lake under all possible conditions. The top of these gates when closed will be at 87 feet above sea level and the bottom when they are open will be at 92 feet. Since little drift will have to be taken over the spillway dam, owing to the large size and irregular outline of the lake and the prevailing direction of the winds, the crest gates have been planned to open to elevation 92, which will give sufficient opening to allow any drift that may reach the dam to pass over. To prevent any large drift that may go over the dam from damaging them, it is proposed to face the baffles with heavy ribbed cast iron plates which will distribute the shock over the concrete.

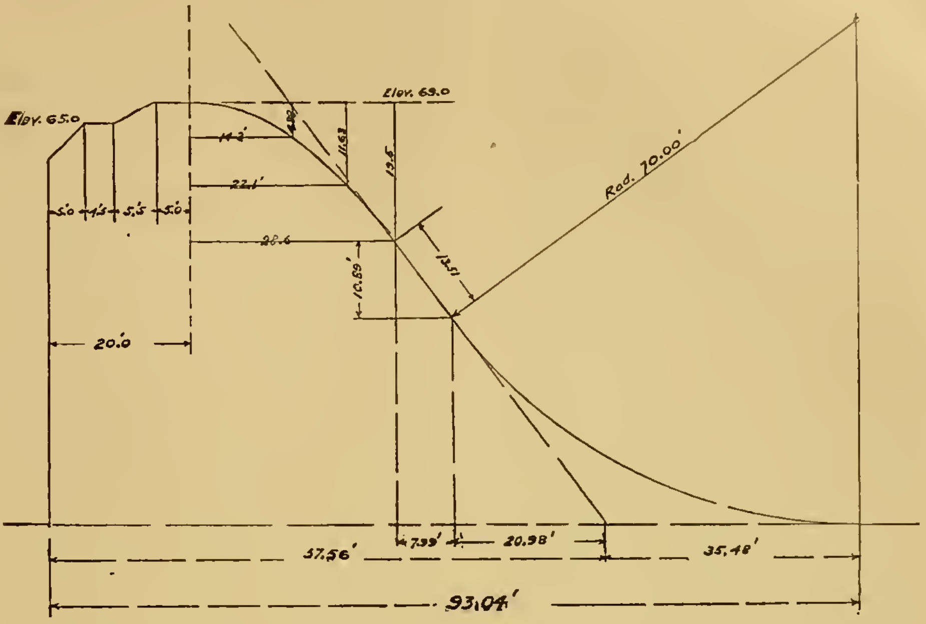
The cut through Spillway Hill has been paved and the sides are being lined with concrete, so as to give a smooth channel through which the Chagres River may discharge after the West Diversion is closed. Before the West Diversion is closed preparations will be made to build coffer dams, under shelter of which the concrete of the main spillway dam may be placed later.

It is considered necessary to have positive lake regulation during the construction of the spillway dam and of the locks, and in order to obtain this, and at the same time to test some of the Stoney culvert gates intended for the locks, three of the piers between the crest gates will be made much larger than the others. Culverts will be left through them at a low level and some of the gates already contracted for will be installed. In order at the same time to test one of the cylindrical valves for the lock, a fourth large pier will be constructed in which to install one of them. This valve will be set at a somewhat higher elevation than the Stoney gates and will, therefore, not assist in the regulation of the lake at low levels.

Preparations for installing the coffer dams have been made. The West Diversion will be closed and the flow of the river will then be through the channel and may be continued there as long as desired. During this time the ends of the spillway dam, which will be founded upon the rock at elevation 40 feet above sea level, may be constructed, as they will be well above the surface of the water flowing through the channel.

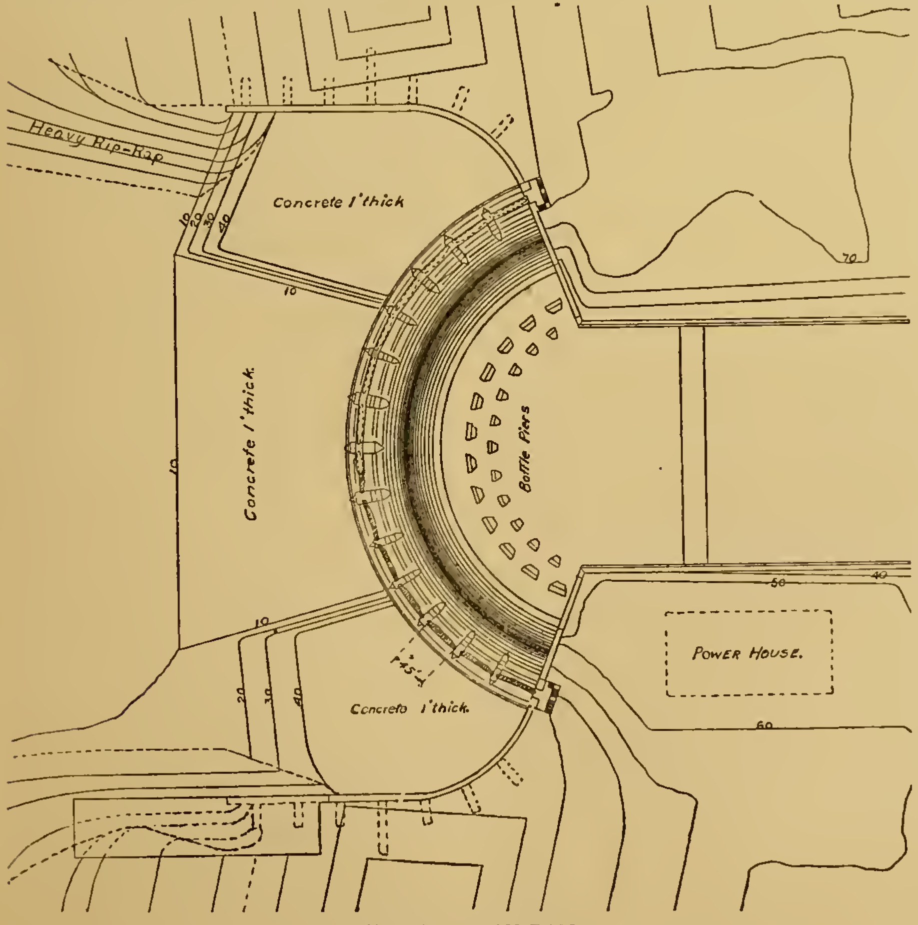
The lake should drain down to about 13 or 14 feet above sea level during the dry season, and construction of the dam should, therefore, begin at that time of the year, when it is desired to fill the lake. The coffer dams may then be put in, shutting off the water and allowing the concrete to be placed. As soon as a few feet of concrete have been put in, the culvert gates should be opened and left wide open during the construction, except as they may be occasionally closed to permit the examination of the masonry inside the culverts. If they are left open in this way it will be possible to keep the construction of the dam ahead of the rise of the lake, so that there will be no danger of overtopping the new masonry. The dam should then be completed and the crest gates installed. It will be impossible to put in the machinery for five of these gates at the time they are installed, as the operating machinery for the three Stoney culvert gates and the one cylindrical gate will prevent it. There will, however, be sufficient available lake regulation with the nine crest gates, three Stoney culvert gates, and one cylindrical valve.

When it is desired to remove the Stoney gates and the cylindrical valve to the locks, the culverts will be closed by temporary gates at their upstream ends, thus shutting off the water and allowing the gates and valve to be removed. The culverts will then be filled with concrete. As soon as the gates and the valve have been removed the operating machinery for the remaining crest gates can be installed, completing the spillway.



GATUN SPILLWAY DAM.

Section showing ogee curve on which concrete dam will be constructed. Regulating works will be imposed on top of concrete dam.



GATUN SPILLWAY DAM.

Crest of concrete dam showing location of 14 gates in regulating works. Number and location of baffle piers not yet determined. Space marked "power house" is site of hydraulic plant that will utilize water wasted from lake, and should not be confused with power house now in use at Gatun Locks concrete plant.

Obituary.

Andrew J. Corr, a private in Company C, U. S. Marine Corps stationed at Camp Elliott, was struck by a train at Matachin on the morning of August 28, and died soon afterwards. He was born in Shagtocoke, N. Y., in 1881, and had been on the Isthmus 14 months.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., September 8, 1909.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Billings, Miss Floria M.
Bomberg, J. B.
Boyer, Chas. S.
Brennan, Chas. F.
Brown, Wm. Carter
Burnell, E. D.
Callahan, W. V.
Calvert, Fay
Cash, John H.
Chalfant, Mack
Cherry, D. F.
Crooks, Z. M.
Darling, W. W.
Decker, Rev. W. H.
Devlin, John J.
Dickenson, Mrs. Charles
Dumlao, Mrs. Jusefa
Flood, James
Harrison, William T.
Herberger, L. C.
Johnson, Nehemiah
Koontz, O. D.
Lours, Jame
McConnell, Raymond
Oglebeem, Emily L.
Pason, J.
Payne, L. W.
Plummer, Harry
Sawyer, R. F.
Schau, Wm.
Shuster, E. S.
Skinner, Miss Irene
Straw, Clarence
Swallenberg, H. S.
Westburg, Mrs. Mary
Wilson, A. S.

During the week ending September 3, 1909, the following vessels arrived at or departed from Balboa:

Arrivals—August 28, *Chiriqui*, from intermediate ports; August 29, *Salatis*, from North; September 2, *Chile*, from South ports; September 3, *Washtenow*, from Port Harford. Departures—August 29, *Peru*, for San Francisco, and *Aysen*, for South ports; August 30, *Arica*, for Guayaquil; September 1, *Quito*, for intermediate ports, and U. S. S. *Vicksburg*, for Central America.

CHAGRES BASIN SURVEY.

Field Operations Finished—Some Features of the Work.

The survey of the Chagres River basin was begun about the middle of November, 1908, with only a small force, but by January 1, 1909, there were four completely equipped parties in the field and these continued until the field work was ended about the middle of July. Progress on the Chagres and its branches above Alhajuela was hindered by the unusual and continuous rains that fell this year during the dry months, and as the wet season advanced the work along the rivers became hazardous. Narrow escapes from drowning, and loss of supplies were reported by three of the parties, the floods of the latter part of January damaging instruments and washing away a large part of the camp equipment. In the upper reaches the streams flow through deep and narrow gorges and rise rapidly without warning. On several occasions members of the parties were awakened at night by water rushing through the camp, although the site had been selected to avoid this danger.

Trouble was experienced in retaining laborers, owing to the distance from the Zone and to the hardships they were required to endure. Whenever possible, men living in the vicinity of the work were employed, and on account of the rough conditions encountered, usually gave better satisfaction. The health of the men was excellent until March 1. After that date, malaria, tropical ulcers, skin infections, and the poison of insect bites kept the parties almost constantly crippled. The laborers suffered much from malaria, and from an affection of the feet called mazamorra, due to continual wading in mud and water.

The survey work was under the general field charge of an assistant engineer, and each party consisted of a chief of party, one levelman, one rodman, and about 14 silver men. Supplies were taken to the camps, wherever possible, by boats, and when distant from navigable streams, they were packed by laborers or by mules. The transportation of supplies involved the employment of about 25 boatmen, in charge of a general foreman, and the use of 12 cayucos. When the survey was started Matachin was used as a base of supplies, but later the base was moved to Alhajuela. For the Siri line, supplies were sent by boat from Gatun, while the Trinidad party was supplied by pack train from Empire.

In the survey operations the rivers were utilized as far as possible and azimuth stadia lines were run up the principal streams for the location of points on the watershed from three to five miles apart. From the head of the Rio Santa Barbara, in a general easterly direction to the Esperanza, about 28 miles, nine points were established. When a point on the Rio Chagres was reached about seven days distant by boat from the base of supplies, illness of the white men and a strike of the natives necessitated the temporary abandonment of this line.

On the Pacific slope, a base was located at Narinjal, less than a day from native settlements. A drawback encountered here was the absence of well-established points. The country is uninhabited and untraveled, even the natives being unfamiliar with the region. To the highest and most prominent peaks, which were locally unnamed, designations were given to distinguish them in the survey work. The geodetic locations of Mount Vista Linda and Mount Prominente were determined by triangulation to points on the islands of Chepillo and Taboga, and in the city of Panama.

From Mount Prominente, points on the southwesterly ridge to the Rio Indio were located, and a line was run to Mount Brewster, closely following the ridge. From here a tie line was run to the point formerly established on the Chagres, and Mount San Blas in the extreme northwest portion of the divide was located. This survey developed the ridge line for a distance of about 22 miles. From Mount Vista Linda, a line was run southwesterly along the trail to the Zone boundary, near the Sabanas police station. From stations on this line, sights were taken to locate points on the ridge between Mount Prominente and the head of the Rio Indio, a distance of about 10 miles.

From the head of the Rio Indio to the head of the Pedro Miguel River, six points were established on the ridge line at intervals of three miles by a survey made up the Chilibre River, which is a branch of the Chagres entering near Juan Mina. Total ridge line covered was about 20 miles. From the head of the Pedro Miguel River to that of the Rio Grande, a distance of eight miles, the divide has been determined by various water supply investigation surveys. From the head of the Rio Grande, the ridge has been run to a point west of the town of Chorrera, a distance of about 36 miles. At this point the ridge became too rough to follow, and the line was run in the river bottom, and spur lines run to the ridge at various points, the length of ridge thus determined being about 10 miles. For about 10 miles further, the ridge was located from a line running along the native trails to the head of the Rio Siri Grande. The survey in this region has shown that the Rio Trinidad, and its main tributary, the Rio Siri, have their sources much further south than has hitherto been believed. The extreme headwaters of these streams are approximately within 15 miles of Chamé on the Pacific coast, and the distance from the mouth of the Chagres River is about 37 miles in a straight line. This would indicate a considerably larger area than previously has been estimated.

From the head of the Rio Siri Grande, the line follows the river trails to about the head of the Rio Siricito, establishing by side lines, the ridge for 22 miles. By running lines up the Siricito and two of its branches, three points about five miles apart were established, a distance of about 20 miles. Two of these points were connected up by the survey run along the Trinidad ridge from the high hills at the head of the Rio Siricito to Gatun. A total of 230 miles of the ridge was determined, and in locating it, the actual amount of survey line was 419 miles, of which 381 miles were on rivers and trails and 38 miles on the divide itself.

Hard blue trap rock appears throughout the Chagres divide, with the exception of the district extending about 15 miles south of Gatun. The rivers have cut cañons through this rock, or tumble over it in falls having in places sheer drops of 100, or more feet. At Dos Bocas, 19 miles up river from Gamboa, the Chagres divides into two branches. The main branch is to the east, retains the name of Chagres, and has about double the discharge of the other confluent. A short distance below the mouth of the Piedras, this branch passes through a series of cañons, consisting of two distinct reaches, each about a mile long, and separated by a stretch of a quarter of a mile, where the banks assume a gradual slope. For considerable distances, the river is less than 30 feet wide, and in one place narrows in a rock gorge to only 20 feet. At the bottom of the gorge the sides are in solid rock for a depth of 18 to 20 feet, and at ordinary stages the river has a depth of from 10 to 15 feet. In these cañons, water rises of from 40 to 50 feet in four or five hours are common during the dry season, and the drift and wash on the banks show that during periods of heavy rainfall, rises of from 70 to 80 feet are not unusual.

The smaller branch to the west at Dos Bocas is known as the Pequeni. The fact that the Chagres branch, and not the Pequeni, carries the larger volume of water is contrary to general report and some former records. This is established, however, by numerous gaugings on the main streams and their tributaries. On the Pequeni River and its principal affluent, the Boqueron, cañons and waterfalls are found, but of less extent than on the Chagres. Single falls, however, are much higher, and one has a sheer drop of 125 feet.

The largest town in this district is San Juan, with perhaps 55 houses and 350 inhabitants. During old Spanish days this was an important settlement, having been a stopping place on the paved royal road between Porto Bello and Panama. This trail roughly followed the continental divide from Panama to a point near Dos Bocas, where it crossed the Chagres, extended up to San Juan, thence up the Pequeni and Boqueron Rivers, crossing the mountains near the Caribbean coast, and from there down the Rio Casajal to Porto Bello. Portions of the paving of this road are still in good condition, but for the most part the trail is impassable and frequently obliterated by vegetation.

The highest land in the Chagres basin is found in the ridges of the continental divide, where the rivers have their sources. The main ridges are all above 2,000 feet, and the peaks rise from 1,000 to 1,500 feet higher. For a considerable distance above San Juan, the Pequeni and Boqueron flow through a very marked limestone region, the formation being massive and of large extent. The Rio Indio flows for quite a distance through a blue trap rock cañon, beginning about three miles above its mouth, and this rock can be followed on the continental divide where it crosses the Zone. South of the Zone line, although the hills are low, it appears almost everywhere on the surface. As the head of the Trinidad is reached the hills become higher, attaining an elevation at Mount Trinidad, of over 3,000 feet. The top of this mountain is a bare mass of trap rock thrust several hundred feet above the surrounding hills. Peaks of the same nature occur on the ridge from Mount Trinidad to Mount Siri, and the trap rock can be traced to the lower branches of the Siricito River. South of the junction of this stream with the Siri Grande, volcanic ash, conglomerate, and argillaceous sandstone show in the outcrops and gorges. With the exception of a short length of the ridge south of Empire, the hills in the trap rock region have very steep slopes and a very light covering of soil, with but little underbrush.

Several investigations of a more or less extended nature were undertaken of alleged mineral deposits, but nothing of considerable commercial value was found. Deposits of lignite are of frequent occurrence in the Canal Zone and in other sections, but so far as examined they are in thin layers of limited extent, and often occur at such an angle as to be worthless commercially. Many other minerals and metals were found, such as gold, silver, copper, iron, manganese, limestone, and some natural puzzolana. Excepting the lime rock, however, none of these have as yet appeared in such quantities as to be of great value.

The upper Chagres region is covered with a heavy growth of trees, few being of commercial value. Some rubber and small mahogany trees were encountered. The lowlands along some of the branches of the Pequeni are covered with ivory nut and other palms. Many large sabanas are found along the Chilibre River. In the section traversed by the upper Siri and Trinidad Rivers, the vegetation is heavy, except where cut for small native farms. Although the largest trees found in the drainage area are in this district, no great amount of timber of commercial size was observed. Rubber, coffee, and cocoa are grown by the inhabitants who are Cholo Indians of much better condition than the native inhabitants found elsewhere. Rice, yucca, corn, plantains, bananas, etc., are raised on the farms, and a few horses and oxen are used, but most of the products are carried to market by the men. There are no native inhabitants above the Rio Indio, or the Rio Boqueron in the upper Chagres country.

Game was found throughout the basin, tapir and wild hog along the Chagres, deer in the Trinidad region, while several varieties of large pheasants, generally called turkeys, are abundant near the headwaters of all the rivers. Some small cats, and a few larger ones, standing perhaps 2½ feet high, with a total length to tip of tail of about seven feet, were seen, but are not plentiful. Snakes were seldom met with, and are numerous only in the Trinidad River basin. Those to be found, however, are said to be mostly very poisonous, but authenticated cases of death from their bites are rare. Some boas were observed having lengths of from seven to ten feet.

Accidents at Gatun.

James Small, a Barbadian laborer, check No. 35,162, was killed by electricity at Gatun Saturday, September 4, on the automatic railway near the south end of the cement tunnel. He was riding on the cars that convey cement to the mixing plant, when he slipped and fell off, striking the power rail. Death was instantaneous.

Percy O'Neil, a Jamaican, check No. 71,824, was fatally injured at Gatun on Wednesday, September 1. He had climbed out on the frame of a cement mixer to oil the cups, and although previously warned to be careful, failed to notice the approach of a cement train. The engine cab struck him, knocked him under the wheels, cutting off his left leg and badly crushing his right leg. He was taken to Colon Hospital, where he died shortly afterwards.

FIRST CANAL CONCESSIONAIRE

General Türr's Connection with the Early Contracts.

THE CANAL RECORD:

THE CANAL RECORD in No. 43 of the 23d of June speaks of Mr. Lucien Bonaparte Wyse, marine officer, as the first concessionaire of the Panama Canal. It is not my object to discuss or to belittle the great and effective services which Mr. L. B. Wyse rendered the Panama Canal, but I deem it necessary to state that the first concession was given to General Stephen Türr, a Hungarian gentleman, who died at Budapest on the 3d of May, 1908. The facts follow:

The Hungarian born Stephen Türr, Royal Italian major general, made the acquaintance of Mr. Ferdinand de Lesseps in the year 1856 in Constantinople, who already at that time was planning for the construction of the Suez Canal. This acquaintance developed into an intimate friendship after General Türr's marriage to Adeline Bonaparte Wyse, when they moved their place of residence to Paris. Mr. de Lesseps' brilliant success with the Suez Canal incited General Türr to similar large enterprises, and thus he began with the idea of piercing the isthmus connecting North and South America, which scheme was discussed also at the International Geographical Congresses in 1871 at Antwerp, and in 1875 at Paris. General Türr collected all the existing plans and, according to the resolutions of the before mentioned congresses, whereby the two oceans were to be connected with a (sea) level canal, General Türr, based upon the law sanctioned on the 26th of May, 1876, received a concession on the 28th of May for the term of 99 years, for the construction of an interoceanic canal at Darien without locks or tunnels. Outside of the territory required for railways and telegraphs an area of 250,000 hectares was given by the Colombian Government, and the contemplated harbors at both ends of the canal, even in case of war with Colombia, were declared free and placed under international protection.

Having this concession in hand General Türr constituted, under his chairmanship, the Société Civile International du Canal Interoceanique du Darien, in Paris, a company for making the plans and doing the preparatory work. This company, in the month of November, 1876, delegated an expedition of engineers to Panama, under the command of General Türr's brother-in-law, Marine Officer Lucien Bonaparte Wyse, aged 23 years. In this expedition a Hungarian engineer, Mr. Bela Gerstev, also took an active part. This expedition could not solve entirely the very difficult problem laid before it, and three of the engineers became the victims of the murderous climate. The company sent out a second expedition in the spring of 1878, under the command of Wyse and Reclus, and they completed the work, prepared the general plan, and made a valuable and lengthy report of their work.

The International Geographical Congress had, previous to this, constituted a committee for the purpose of studying the question, and outside of French engineers, American, English, Italian, and Russian experts had gone into the matter.

About thirty different projects were laid before the committee, and of those the one submitted by General Türr was found the most practical, and virtually was declared the only one capable of being carried out; it being also considered that he was the only one holding the concession from the Colombian Government.

On the ground of this plan the construction of the Panama Canal was carried out under the presidency of Mr. de Lesseps, while General Türr, in his capacity as concessionaire, took part in the undertaking as vice-president. The work began with great hopes, but extraordinary difficulties cropped up, so that the company was thrown into a financial crisis, which finally ended in a tremendous scandal.

A new French company tried afterwards to conserve the work previously done, but without any practical result, until the United States Government took the matter into its hands, and is so brilliantly proving that, with American spirit, workmanship and money, this world-renowned project, which was originated by the Hungarian General Türr, can be carried out to completion. It is remarkable that General Türr's original idea was for a lock canal as now contemplated, and had the company at the time accepted the general's proposition, the canal would have been carried out without any greater difficulties.

Consequently it is clear that the initiation of the building of the great Panama Canal is due to the inspiriting and tireless activity of the Hungarian General Türr. I think it will not be thought immodest of me, who had occasion to observe General Türr's work connected with his different canal projects for the last 35 years, if I propose to the Isthmian Canal Commission, in consideration of the preliminary work carried on by General Türr, that his name be associated with one of the technical objects on the Canal by naming it after him.

In asking you kindly to publish this letter in THE CANAL RECORD, I beg to inform you at the same time that I contemplate delivering a lecture about the Panama Canal and its different stages, for the purpose of bringing the progress of this miraculous work to the knowledge of the Hungarian technical world.

BELA DE GONDA,
Engineer, Ministerial Councillor.

Budapest, Hungary, August 11, 1909.

[The contract of May 28, 1876, states in its opening paragraph:

> The undersigned, to wit: Manuel Ancizar, secretary of state for the department of interior and foreign relations of the Colombian Government, duly authorized by the President of the union, and Anthoine de Gogorza, for himself and General Stephen Türr, according to sufficient authority exhibited, have agreed to the following: * * *

The concession of March 20, and May 18, 1878, states in its opening paragraph:

> Eustorgio Salgar, secretary of the interior and of foreign relations of the United States of Colombia, duly authorized, of the one part, and of the other part Lucien N. B. Wyse, chief of the Isthmus Scientific Surveying Expedition in 1876, 1877, and 1878, member and delegate of the council of administration of the International Interoceanic Canal Association, presided over by General Etienne Türr, in conformity with powers bestowed at Paris, from the 27th to the 29th of October, 1877, which he has exhibited in legal form, have celebrated the following contract: * * *

Article 26 of the contract of 1878 is as follows:

> This contract which will serve as a substitute for the provisions of law 33 of May 26, 1876, and the clauses of the contract celebrated on the 28th day of May of the same year shall be submitted for the approval of the President of the union and the definite acceptance of the Congress of the nation.]

FRUITS AND VEGETABLES.

Supplies for Canal Workers—Improved Service Promised.

Fruits and vegetables for Canal workers are supplied by the Subsistence Department in two forms—fresh and tinned, and from four sources—the United States, Panama, the West Indies, and England. All the fruits and vegetables that can be purchased to advantage in the United States, about 90 per cent of the total, are bought there and brought to the Isthmus in cold storage. An improvement in the cold storage service within the next few months is promised, owing to the increase in cold storage space afforded by the new cement ships, *Ancon* and *Cristobal*, and the cold storage space recently added in the *Panama* and *Colon*. On its present voyage the *Cristobal* will bring 150 tons of vegetables, and fruits, including cauliflower, peaches, grapes and apples. There will be 50 barrels of apples in the cargo, an experimental shipment of early fruit. Large orders for grapes and peaches have been placed, and the supply of vegetables will also be increased as the season advances. The season in the States is said to be late this year and prime fruits and vegetables are not expected until the middle of September.

On their arrival on the Isthmus the fruits and vegetables brought here in cold storage are placed in dry refrigeration at Cristobal, whence they are sent out to customers along the line of the Canal. Dry refrigeration is accomplished by passing cold air over calcium chloride brine to dry it. About 40 per cent of the vegetables and fruits is used by the hotels and hospitals, and the remainder is sold at the commissaries.

Of the fresh fruits imported, oranges, grape fruit, and tangerines come from Jamaica, and the others are purchased in the United States. Fruits from the northern part of the United States are coming now and will continue until November, when imports from California will take their place to continue into February. Apples are imported as late as June, but in general the fresh fruit importations do not extend beyond May. Fresh fruits were imported during the fiscal year, 1909, in the following amounts:

Apples	422,473 pounds.
Oranges	86,315 dozen.
Lemons	29,650 dozen.
Cantaloupes	32,145
Watermelons	10,844
Peaches	35,921 pounds.
Pears	26,269 pounds.
Plums	4,025 pounds.
Grapes	57,838 pounds.
Grapefruit	9,106 dozen.
Limes	5,169 dozen.
Other fruits	18,290 pounds.

In addition to the fresh fruits imported, two carloads of bananas are purchased on the Isthmus each week, and a small quantity of papaya is also purchased. Although the Panamanian oranges and limes are of a superior flavor none are purchased here because none are offered on the local market. Native oranges sell at the Gatun market at 30 cents gold a dozen, and the supply is less than the demand, although the fruit is rotting on the trees not over five miles from the market place.

Fruits canned in syrup were imported to the amount of 439,003 pounds, and jams, jellies, and preserves in glass and tin to the amount of 193,586 pounds in the past fiscal year.

About $1,600 worth of onions, lettuce, cucumbers, and other fresh vegetables are purchased in Panama each month, about 80,000 pounds of sweet potatoes are imported from Barbados, and 40,000 pounds of yams from Jamaica. With these exceptions all the vegetables both fresh and in tins come from the United States. The imports of fresh vegetables in the fiscal year were as follows:

	Pounds.
White potatoes	4,822,062
Onions	612,316
Turnips	105,977
Beets	36,738
Carrots	70,571
Cabbage	672,433
Yams	427,973
Sweet potatoes	1,306,825
Other vegetables, including celery, tomatoes, squash and other northern seasonable vegetables	326,554

The tinned vegetables imported were:

	Pounds.
Pork and beans	53,388
Tomatoes	506,080
Peas and beans	340,234
Other vegetables	474,192

PERSONAL.

Maj. C. A. Devol, Mrs. Devol, and their daughter sailed for the States on the *Alliança* on September 3.

Laying of Church Corner Stone at Gatun.

The corner stone of the Baptist church at Gatun will be laid Sunday, September 19, at 3 p. m., by Mr. H. L. Stuntz and Mrs. J. L. Wise. Revs. C. H. Elliott, E. G. Cook, J. L. Wise, and others will make addresses.

Knights of Columbus.

Panama Council, No. 1371, of the Knights of Columbus will hold its regular meeting on Sunday, September 12, at 10 a. m., in the I. C. C. lodge hall at Empire. Visiting brothers are invited. Important business will be transacted.

JOHN A. DALEY,
Financial Secretary.

Kangaroos.

A complete directory of all Kangaroos in good standing has been prepared, and a copy may be obtained free of charge by any member on application to the comptroller of the court to which he belongs.

C. A. LESTER, *Compiler.*

Cristobal, August 31, 1909.

Pythian Sisters.

Canal Zone Temple, No. 1, Pythian Sisters, of Empire, gave a farewell reception to Mrs. J. W. Forsythe, retiring chief of the temple, on the night of August 16, and presented her with a pearl and silver belt. Mr. and Mrs. Forsythe left for the States on August 19.

Red Men.

A contest for the Red Men's inter-tribal banner will be held in the hall at Gatun on September 18, between Inca Tribe of Gatun and Cocle Tribe of Empire. After the contest there will be a haymakers meeting. Corn and venison will be served. Accommodations for the night will be provided for all visiting brothers.

Regulations Governing Use of Clubrooms.

The control of the Commission clubrooms has been vested by the Chairman in the Quartermaster's Department, and the following regulations govern their use:

The rooms are available for use by all gold employes of the Isthmian Canal Commission, or Panama Railroad Company, living in the respective districts in which the rooms are located.

The rooms will be under the supervision of the District Quartermasters, who will be responsible for all Commission property therein, and provide janitor service, attendance and equipment.

All expense for janitor service, attendance, and care and maintenance of equipment, will be borne by the Commission.

The rooms will be opened from 10 a. m. to 2 p. m., and from 4 p. m. to 10 p. m., except on Saturdays, when they will be open untill 11 p. m., and on Sundays, when they will be open from 8 a. m. to 12 m.

An attendant, under the direction of the District Quartermaster, will be present when the rooms are open, to render such service as may be necessary.

At points where there are no lodge halls, the clubrooms may be assigned to organizations which desire to use them at night.

No gambling of any character will be permitted in the clubrooms.

Any employe, who by his conduct, may make himself undesirable, may be debarred therefrom.

Gorgona Athletic Park Association.

At the recent meeting of the stockholders of the Gorgona Athletic Park Association, in Gorgona, the resignation of Mr. Harvey C. Dew was accepted and Mr. William Taylor was elected President of the Association. Mr. D. E. Hayes was elected Secretary and Treasurer.

Missing Man.

Arthur Moore, a British subject, left Caracas and his wife in that city, in the summer of 1908. He arrived in Colon on July 7, 1908, on the steamship *Huasco*, and since that time his family has not heard from him. Information concerning his whereabouts should be sent to the British Legation in Panama.

Baseball at Ancon.

An exhibition game of baseball was played at Ancon park on Sunday, September 5, between employes of the Department of Civil Administration and employes of the Panama Railroad Company at Balboa. The score by innings was:

Panama Railroad	0	0	0	0	0	0	0	0	0—0
Civil Administration	3	1	0	1	2	2	0	1	x—10

Batteries—Panama Railroad, Major and Ransom; Civil Administration, Russell and Rex. Umpire, Monroe.

Another exhibition game was played at Ancon on Labor Day, between the same teams, resulting as follows:

Panama Railroad	2	0	0	1	1	1	2	3—10
Civil Administration	0	0	0	0	0	1	0	1—2

Batteries—Panama Railroad, Dixon and Ransom; Civil Administration, Russell and Rex. Umpire, Yingling.

Concert by I. C. C. Band.

AT PORTO BELLO,
Sunday, September 12, 1909, at 2 p. m.
PROGRAM.

1 March—*Festal Day*....Roux
2 Selection—*A Waltz Dream*....Straus
3 Waltz—*Gaite*....Waldteufel
4 a—Southern Characteristique—*Moonlight in Dixie*....Clement
b—*S. R. Henry's Barn Dance*....Henry
5 Medley Selection—*Hits of 1909*....Remick
6 Tone Poem—*In Lover's Lane*....Pryor
7 Idyl—*The Mill in the Forest*....Eilenberg
8 Overture—*Poet and Peasant*....Suppe
9 Patrol—*American*....Meacham
10 March—*Aviator*....Fulton

CHAS. E. JENNINGS, *Musical Director.*

The next concert will be given at Empire, Sunday, September 19.

OFFICIAL CIRCULARS.

Computation of Longevity Increases.

DEPARTMENT OF EXAMINATION OF ACCOUNTS,
EMPIRE, C. Z., August 30, 1909.

CIRCULAR NO. 18:

The attached tables, showing the calculation of the longevity increases of pay of employes on an hourly basis, and of employes receiving pay at monthly rates, are published in order that computation of longevity increases may be uniform.

On and after September 1, 1909, the amounts stated in these tables for each longevity period, at each of the basic rates, will be shown upon all pay rolls.

W. W. WARWICK, *Examiner of Accounts.*

Approved:
GEO. W. GOETHALS,
Chairman and Chief Engineer.

TABLE SHOWING LONGEVITY INCREASES OF HOURLY MEN.

BASIC RATES.	Longevity for first year, 5 per cent.	Longevity for second year, 8 per cent.	Longevity for third year, 11 per cent.	Longevity for fourth year, 14 per cent.	Longevity for fifth year, 17 per cent.
Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
32	34	35	36	36	37
38	40	41	42	43	44
44	46	48	49	50	51
50	53	54	56	57	59
56	59	60	62	64	66
65	68	70	72	74	76
70	74	76	78	80	82
72	76	78	80	82	84
75	79	81	83	86	88

TABLE SHOWING LONGEVITY INCREASES OF MONTHLY EMPLOYES.

BASIC RATES.	Longevity for first year, 5 per cent.	Longevity for second year, 8 per cent.	Longevity for third year, 11 per cent.	Longevity for fourth year, 14 per cent.	Longevity for fifth year, 17 per cent.
$75.00	$78.75	$81.00	$83.25	$85.50	$87.75
80.00	84.00	86.40	88.80	91.20	93.60
83.33	87.50	90.00	92.50	95.00	97.50
100.00	105.00	108 00	111.00	114.00	117.00
105.00	110 25	113.40	116.55	119.70	122.85
110.00	115.50	118.80	122.10	125.40	128.70
112.50	118.13	121.50	124.88	128.25	131.63
115.00	120.75	124.20	127.65	131.10	134 55
120.00	126.00	129.60	133.20	136.80	140.40
125.00	131.25	135.00	138.75	142.50	146.25
130 00	136.50	140.40	144.30	148.20	152 10
135.00	141.75	145.80	149.85	153.90	157.95
140.00	147 00	151.20	155.40	159.60	163.80
145.00	152.25	156.60	160.95	165.30	169.65
150 00	157.50	162.00	166.50	171.00	175.50
155.00	162.75	167.40	172.05	176.70	181 35
160.00	168.00	172.80	177.60	182 40	187.20
162.50	170.63	175.50	180.38	185.25	190.13
165.00	173.25	178.20	183.15	188.10	193.05
170.00	178.50	183.60	188.70	193.80	198.90
175 00	183.75	189.00	194.25	199.50	204.75
180.00	189.00	194.40	199.80	205.20	210.60
185 00	194.25	199.80	205.35	210.90	216.45
190.00	199.50	205.20	210.90	216.60	222.30
200.00	210 00	216.00	222.00	228.00	234.00
210.00	220.50	226.80	233.10	239.40	245.70
215.00	225.75	232.20	238.65	245.10	251.55
225.00	236.25	243.00	249.75	256.50	263.25

Care of Steam Shovels.

CULEBRA, C. Z., August 30, 1909.

CIRCULAR NO. 272:

Effective September 1, 1909, the following rules will govern steam shovel engineers in the care of their shovels, except in cases where, on account of efficiency, it is deemed advisable by the Division Engineers or their assistants to have the work done by the steam shovel repair crews:

1. Keep all bearings properly adjusted.
2. To see that all bolts are kept tight.
3. Replace broken "U" bolts.
4. Keep saddle block properly adjusted.
5. Put in all gaskets under 3½ inches in diameter except steam chest cover gaskets.
6. Pack all piston rods and valve stems.
7. Replace grate bars.
8. Replace links in propelling chain.
9. Replace jack screws.
10. Put cold shuts in hoisting chain.
11. Replace Panama tips.
12. Replace steam chest covers.
13. Replace whistles.
14. Replace lubricators.
15. Replace cylinder heads.
16. Replace all bolts possible.
17. Replace padlocks.
18. Replace pitch braces.
19. Replace boom braces.
20. Replace hoisting chains.
21. Set valves.
22. Replace friction and brake bands.
23. Keep cinders out of the smoke box.
24. Replace dipper sticks.
25. Keep boiler flues clean.
26. In general, to do all work around steam shovels which can be done by the crew more economically and more quickly than by the repair crew, and do all in their power to keep their machines in proper condition to load dirt eight hours per day.

GEO. W. GOETHALS, *Chairman.*

Approval of Repair Work.

CULEBRA, C. Z., September 1, 1909.

HEADS OF DEPARTMENTS AND DIVISIONS:

Your attention is invited to Paragraph 3 of Circular No. 197-C, in which it is directed that in cases where work requested on Form No 159 is not estimated to cost over $50 (which limit was raised in Circular No. 197-D to $500 for steam shovel repairs and $200 for repairs to unloaders, spreaders, etc.), same need not be forwarded for approval of the Chairman and Chief Engineer, but that two copies of such forms should be forwarded to the Chief Engineer's office, one for his files and the other for the Examiner of Accounts. Please see that this procedure is followed.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Work for Disabled Employes.

CULEBRA, C. Z., September 1, 1909.

CIRCULAR NO. 235-A:

In case an employe entitled to the benefits of the Government Employes' Compensation Act, approved May 30, 1908, is disabled in such manner that after recovery he is unable to resume his regular duties, he shall be entitled to the benefits of said Act for a period of one year from date of injury.

If, however, such employe elects to work at a decreased remuneration in some other position in order to gain seniority or acquire experience to fit himself for promotion, he may do so with the understanding that the amount of his pay will be deducted from the amount to be paid him as injury compensation.

H. F. HODGES, *Acting Chairman.*

Disbursing Officer.

CULEBRA, C. Z., September 2, 1909.

CIRCULAR NO. 274:

The duties of Disbursing Officer on the Isthmus were assumed by Mr. William M. Wood on September 1, 1909, and he will continue to serve in that capacity during the absence of Mr. Edward J. Williams, on leave.

H. F. HODGES, *Acting Chairman.*

Acting Chief Quartermaster.

CULEBRA, C. Z., September 1, 1909.

CIRCULAR NO. 273:

Effective September 3, 1909, Lieut. R. E. Wood will act as Chief Quartermaster during the absence of Maj. C. A. Devol, on leave.

H. F. HODGES, *Acting Chairman.*

WEATHER CONDITIONS, CANAL ZONE, AUGUST, 1909.

Stations	Press're (reduc'd to mean of 24 hours.)	Temperature.					Mean relative humidity.	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches	Station average per month.	Number of rainy days.	Total movement (in miles.)	Prevailing direction.	Max. velocity (in miles.)	Direction.	Date.
Cristobal	29.868	78 7	88	25	71	8	91	15.42	15.22	27	4,093	S E.	26	N.W.	25
Culebra	29.868	78.4	90	30	68	15	94	8.32	10 73	23	3 417	N.W.	25	S.	17
Ancon	29.862	78.7	91	31	70	15	92	6.84	7.34	24	4,204	N W	23	N.W.	3

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

The following were the results of the opening games between Culebra and Gorgona in the Isthmian bowling tournament:

Culebra.	*First.*	*Second.*	*Third.*	*Total.*
Lamster (actg. capt.)	162	169	195	526
Vogel	127	191	190	508
De Moll	164	168	171	503
Winters	146	154	157	457
Edwards	174	193	179	546
	773	875	892	2,540
Gorgona.				
Buchanan	155	150	151	456
McConaughey	165	153	147	465
Hall	149	132	186	467
Humphrey	202	170	135	507
Otis (captain)	178	161	151	490
	849	766	770	2,385

The first inter-association handball games were played at Culebra, Monday evening between the home team and Cristobal.

The members of the Cristobal team were Thomas Walter and R. H. Luce; of the Culebra team, C. T. Lindsay, and H. K. Allen. The results were as follows:

First game—Cristobal, 21; Culebra, 17. Second game—Cristobal, 21; Culebra, 17. Third game—Cristobal, 10; Culebra, 21.

Owing to the limited time, Mr. Luce, representing the Cristobal team, and Mr. Lindsay, the Culebra team played a short games of singles, which resulted in favor of Cristobal, 11 points to 8.

Seat reservation for the Hearons Concert on Monday, September 13, will begin Thursday, September 9.

EMPIRE.

Following are the results of the opening games between Empire and Cristobal in the Isthmian bowling tournament:

Empire.	*First.*	*Second.*	*Third.*	*Total.*
Brown	167	132	158	457
Potter	161	122	169	452
Bardelson	166	176	140	482
Hinckley	197	156	182	535
Huson (captain)	230	175	188	593
	921	761	837	2,519
Cristobal.				
Bullard (captain)	166	188	162	516
Louch	178	150	164	492
Barlow	147	183	168	498
Collins	145	151	175	471
Barte	171	162	168	501
	807	834	837	2,478

The third game being a tie, a fourth game was rolled deciding the tie in favor of Empire. The number of spectators was large and the interest very keen.

Another open meeting of the camera club will be held on Wednesday night of this week. Interest is increasing.

Seat reservation for the Hearons concert on Thursday, September 16, will begin Saturday, September 11.

GORGONA.

New playing equipment has been received for use in the bowling tournament.

An order has just been placed for additional library books consisting chiefly of late fiction.

A popular feature of the clubhouse is the phonograph. A convenient case for preserving the records has recently been provided.

The reservation of seats for the Hearons concert on Thursday, September 14, will begin on Saturday evening, September 11.

CRISTOBAL.

Owing to a conflict in dates with the Hearons Sisters entertainment at Cristobal on September 11, a change has been made in the bowling schedule so that the Cristobal team will bowl at Culebra on September 11, and Culebra at Cristobal on October 9. This is just the reverse of these dates as scheduled originally.

Seat reservation for the Hearons concert on September 11, will begin Thursday morning, September 9.

The chess and checker equipment has been transferred to the reading room where the players will find it more quiet.

LOST—A pair of spectacles, toric lens, gold mounted, in case; inside of case cover, typewritten, "Wm. V. O'Reilly, Chief Engineer's office, Culebra, C. Z." Reward offered for return to owner, Gatun, C. Z.

LOST—During the month of July, between Mount Hope and Gatun a sharpshooter's medal inscribed "John I. Conley, G Troop, 15th U. S. Cavalry." The finder will be rewarded for the return of the medal.

COMMISSARY DEPARTMENT.

Regulation Concerning Return of Goods—Cold Storage Price List.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Goods Not Returnable.

CRISTOBAL, C. Z., September 1, 1909.

CIRCULAR NO. 43:

Hereafter commissary storekeepers will not take back any goods after they once have been sold except for defects which were not apparent at time of sale. No goods will be exchanged after forty-eight hours from time of sale without the approval of the manager. Goods will not be exchanged unless accompanied by sales slip.

JOHN BURKE, *Manager.*

Approved: F. O. WHITLOCK,
Acting Subsistence Officer.

Retail prices of cold storage provisions for the week beginning September 8:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Steak	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	27
Chops	per lb	29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	20
Cutlets	per lb	23
Pork cuts	per lb	22
Beef—Suet	per lb	4
Soup	per lb	6
Stew	per lb	10
Corned	per lb., 12, 14,	16
Chuck roast	per lb	14
Pot roast	per lb	16
Rib-roast, second cut (not under 3½ pounds)	per lb	19
Rib-roast, first cut (not under 3 pounds)	per lb	21
Sirloin roast	per lb	22
Rump roast	per lb	22
Porterhouse roast	per lb	22
Steak, Chuck	per lb	15
Round	per lb	16
Rib	per lb	21
Sirloin	per lb	22
Porterhouse	per lb	22
Rump	per lb	22
Tenderloin	per lb	27

MISCELLANEOUS.

Livers—Beef	per lb	11½
Calf	each	65
Shad roes	pair	40
Sausage—Pork	per lb	17
Bologna	per lb	17
Frankfurter	per lb	17
Leberwurst	per lb	17
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	30
Eggs, fresh	dozen	32

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 90,	1.00
Ducks, fatted	each	1.30
medium weight	each	90
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese, fatted, about 10 pounds	each	2.00
12 pounds	each	2.30

CURED AND PICKLED MEATS.

Bacon—Breakfast, whole piece	per lb	23½
Breakfast, sliced	per lb	§26
Ham—Sugar-cured, sliced	per lb	§25
One-half, for boiling	per lb	§21
Hocks	per lb	‡8
Sugar cured	per lb	20
Beef, salt, family	per lb	10
Pork, salt	per lb	15
Ham, boiled	per lb	28
Ox tongues	each	1.00
Pigs' feet	per lb	14
tongues	per lb	16

DAIRY PRODUCTS.

		Price.
Butter—Prints, prime quality	per lb	38
Cheese—Roquefort	per lb	45
Philadelphia Cream	each	20
Young America	per lb	22
Swiss	per lb	31
Edam	each	1.05
Camembert	per lb	28
Neufchatel	each	6
Gouda	per lb	34
Parmesan	bottle	20
French cheese in tins—Camembert, Brie, Neufchatel	1-lb tin	20
Milk, Briarcliff	bottle	**25
Butter	bottle	**15

VEGETABLES AND FRUITS.

Celery	per hd	10
Cauliflower	per lb	15
Lettuce	per lb	8
Potatoes, white, old	per lb	3¼
sweet	per lb	2½
Onions	per lb	3
Squash, Hubbard	per lb	5
Yams	per lb	3½
Turnips	per lb	3½
Carrots	per lb	5
Beets	per lb	5
Potatoes, new	per lb	3½
Rhubarb	per lb	5
Cucumbers	per lb	7
Tomatoes	per lb	7½
Lemons	dozen	24
Limes	per 100	80
Watermelons	each	40
Canteloupes	each	5
Cabbage	per lb	4½
Pineapples	each	15
Oranges	dozen	12
Grapefruit	each	4

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Rainfall, August 1 to 31, 1909, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Division—			
Cristobal	4.75	25	15.42
Brazos Brook	2.24	25	10.67
Gatun	4.58	13	9.92
Bohio	2.47	13	10.01
Central Division—			
Tabernilla	1.62	3	9.78
San Pablo	1.52	3	9.04
Gorgona	1.37	7	8.45
Gamboa	1.16	7	7.03
Empire	1.85	3	7.20
Camacho	1.88	4	8.03
Culebra	2.19	3	8.32
Pacific Division—			
Rio Grande	1.88	3	9.12
Pedro Miguel	2.11	22	10.07
Balboa	1.98	3	6.86
Ancon	1.75	3	6.84
Atlantic Coast—			
Porto Bello	2.19	9	13.83
Nombre de Dios	2.43	3	12.15
Upper Chagres—			
El Vigia	1.43	4	11.24
Alhajuela	1.27	3	8.15

August Rainfall for Three Years.

STATION.	1907.	1908.	1909.	Years of record.*	Station average.*	No. rainy days—1909.
Atlantic Division—						
Nombre de Dios	......	......	12.15	0	......	14
Porto Bello	......	16.98	13.83	1	......	24
Cristobal	18.89	16.89	15.42	38	15.22	27
Brazos Brook	17.51	18.19	10.67	3	17.32	26
Gatun	16.37	16.22	9.92	3	18.90	28
Gatun River	......	15.88	8.39	1	......	28
Trinidad	......	19.00	9.50	1	......	25
Bohio	9.10	20.50	10.01	14	15.76	25
Central Division—						
Tabernilla	11.34	11.02	9.78	2	11.18	27
San Pablo	10.98	10.70	9.04	2	10.84	24
Gamboa	12.69	11.84	7.03	26	12.46	24
Gorgona	......	......	8.45	5	13.45	22
Empire	11.24	8.11	7.20	5	10.74	24
Camacho	12.17	8.28	8.03	3	10.82	25
Culebra	11.81	7.74	8.32	17	10.73	23
Rio Grande	11.41	7.65	9.12	4	10.83	25
Pacific Division—						
Pedro Miguel	......	9.31	10.07	1	......	23
Balboa	8.63	10.48	6.86	10	7.27	22
Ancon	7.46	11.48	6.84	12	7.34	24
Upper Chagres—						
El Vigia	......	......	11.24	0	......	29
Alhajuela	10.67	16.64	8.15	10	13.79	29

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* Not including 1909.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO COLON.

Cristobal	P. R. R.	Thursday	Sept. 2
Panama	P. R. R.	Friday	Sept. 3
Tagus	R.-M..	Saturday	Sept. 4
Advance	P. R. R.	Thursday	Sept. 9
Prinz Aug. Wilhelm	H.-A...	Saturday	Sept. 11
Allianca	P. R. R.	Wednesday	Sept. 15
Ancon	P. R. R.	Thursday	Sept 16
Oruba	R.-M...	Saturday	Sept. 18
Colon	P. R. R.	Tuesday	Sept. 21
Prinz Joachim	H.-A...	Saturday	Sept. 25
Panama	P. R. R.	Monday	Sept. 27
Cristobal	P. R. R.	Thursday	Sept. 30
Magdalena	R.-M...	Saturday	Oct. 2
Clyde	R.-M...	Saturday	Oct. 16
Thames	R.-M...	Saturday	Oct. 30

Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

COLON TO NEW YORK.

Ancon	P. R. R.	Wednesday	Sept. 8*
Oruba	R.-M...	Wednesday	Sept. 8
Colon	P. R. R.	Thursday	Sept. 9
Prinz Joachim	H.-A...	Tuesday	Sept. 14
Panama	P. R. R.	Wednesday	Sept. 15
Cristobal	P. R. R.	Thursday	Sept. 16
Advance	P. R. R.	Tuesday	Sept. 21
Magdalena	R.-M...	Wednesday	Sept. 22
Allianca	P. R. R.	Monday	Sept. 27
Prinz Aug. Wilhelm	H.-A...	Tuesday	Sept. 28
Ancon	P. R. R.	Thursday	Sept. 30
Clyde	R.-M...	Wednesday	Oct. 6
Thames	R.-M...	Wednesday	Oct. 20

*Sails at 11 a. m.

NEW ORLEANS TO COLON.

Abangarez	U.F C..	Saturday	Sept. 4
Atenas	U.F.C..	Saturday	Sept. 11
Turrialba	U.F C..	Saturday	Sept. 18
Abangarez	U.F.C..	Saturday	Sept. 25

COLON TO NEW ORLEANS.

Abangarez	U.F.C..	Tuesday	Sept. 14
Atenas	U.F.C..	Tuesday	Sept. 21
Turrialba	U.F.C..	Tuesday	Sept. 28
Abangarez	U.F.C..	Saturday	Oct. 5

COLON TO BARBADOS, CALLING AT TRINIDAD.

Tagus	R.-M...	Tuesday	Sept. 14
Oruba	R.-M...	Tuesday	Sept. 28

Sailings of the French line (Cie. Générale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Californian* for New Orleans, via Kingston, Ja., on or about September 10.

The steamers *David* of the National Navigation Company, and the *Taboga* of the Pacific Steam Navigation Company, leave Panama, for David, province of Chiriqui, and intermediate points, the first and third weeks of each month.

The Panama railroad steamships sail at 3 p. m. from dock at Cristobal direct to New York.

A ship of the United Fruit Company's line sails from the dock at Colon, at 3 p. m., Tuesday of each week.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending September 15, 1909 (75th meridian time):

DATE.	High.	Low.	High.	Low.
	A. M.	A. M.	A. M.	P. M.
September 9	....	5.13	11.22	5.50
			P. M.	
September 10	12.16	6.30	12.47	7.00
September 11	1.29	7.38	1.51	8.00
September 12	2.25	8.32	2.45	8.50
September 13	3.09	9.16	3.28	9.31
September 14	3 48	9.56	4.03	10.10
September 15	4.21	10.31	4.38	10.46

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, SEPTEMBER 15, 1909. No. 3.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

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Address all Communications
THE CANAL RECORD,
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Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Canal Work in August.

The grand total of Canal excavation during the month of August was 2,755,178 cubic yards, which is 88,082 cubic yards less than the total for July, and 1,125,159 less than the highest record, that of March, 1909. Of the 2,755,178 cubic yards, 2,702,835 were charged to "Work" excavation, and 52,343 to "Plant." The amount removed from the Canal prism was 2,650,980 cubic yards. There were taken out by steam shovels 1,604,871, and by dredges 1,046,109 cubic yards. There were 26 working days during the month, the same as in July. The mean rainfall for the month in the territory in which excavation was in progress was 9.28 inches, as compared with 10.66 inches the previous month.

In the Atlantic Division the total excavation was 530,559 cubic yards, 60,672 more than were removed in July. Of this total 107,713 cubic yards were removed by steam shovels, and 422,846 by dredges. In addition to the latter amount the dredges in this division worked in deepening the channel and approaches to the docks of the Panama Railroad Steamship Company at Cristobal, which is not counted as Canal excavation. There were 1,298 cubic yards of concrete placed in the Gatun Locks, 5,498 cubic yards of concrete in the Spillway, and 379,533 cubic yards of fill were added to the Gatun Dam during the month.

The total excavation in the Central Division was 1,404,913 cubic yards, 38,181 less than were removed in July. Of this total 1,169,342 cubic yards were taken from Culebra Cut, 231,543 from the Canal prism elsewhere than in the Cut, and 4,028 cubic yards from the Obispo Diversion, which is outside the Canal prism.

In the Pacific Division the total excavation was 819,706 cubic yards, 110,573 less than were removed in July. Of this total 144,696 cubic yards were removed by steam shovels, and 675,010 by dredges. A total of 75,144 cubic yards of fill was added to the dams in this division during the month.

The detailed statement of excavation in the three divisions follows:

ATLANTIC DIVISION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation—	*cu. yds.*	*cu. yds.*	*cu. yds.*
Locks, Dam and Spillway..................	40,346	....	40,346
Mindi..................	66,249	1,118	67,367
Total..................	106,595	1,118	107,713
Wet excavation—			
Atlantic entrance	422,846	....	422,846
Locks, Dam and Spillway..................	....	....	....
Total..................	422,846	....	422 846
Total wet and dry excavation.........	529,441	1,118	530,559

CENTRAL DIVISION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
All dry excavation—			
Culebra Cut............	1,169,342	....	1,169,342
Chagres section.........	231,543	....	231,543
Obispo Diversion......	4,028	....	4,028
Total	1,404,913	....	1,404,913

PACIFIC DIVISION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation—			
Locks, Dams and Spillways..................	93,363	51,225	144,588
Diversions..............	108	....	108
Total..................	93,471	51,225	144,696
Wet excavation—			
Pacific entrance	623,263	....	623,263
Miraflores Locks......	51,747	....	51,747
Diversions..............	....	....	....
Total..................	675,010	....	675,010
Total wet and dry excavation.........	768,481	51,225	819,706

TOTAL CANAL EXCAVATION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation	1,604,979	52,343	1,657,322
Wet excavation	1,097,856	....	1,097,856
Total..................	2,702,835	52,343	2,755,178

Mean rainfall along Canal (twelve stations) 9.28 inches. Twenty-six working days.

By "Work" Excavation is meant excavation actually made for one of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc.; that is, it represents material taken from the area to be occupied by the Canal, and constitutes excavation useful for the completed Canal.

By "Plant" Excavation is meant excavation outside of any of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc. It includes material necessary to be excavated for construction purposes only and is chargeable against the particular plant item for which it is performed, such as Prism, Diversions, Locks, etc.

Decreasing Excavation.

The highest point in Canal excavation was reached in March, 1909. Since that time there has been a gradual decrease in the monthly total, as will be seen from the following statement:

	Central.	Atlantic.	Pacific.	Total.
March......	2,054,088	758,380	1,067,869	3,880,337
April.......	1,782,766	672,701	999,182	3,454,649
May........	1,513,133	522,622	860,340	2,896,095
June........	1,520,975	345,112	1,029,706	2,895,793
July	1,443,094	469,887	930,279	2,843,260
August.....	1,404,913	530,559	819,706	2,755,178

The period of easy digging is almost past. Dredges and steam shovels are encountering less earth and more rock each day. Then, too, several comparatively small pieces of work have been completed, and the general field of work has been narrowed. In Culebra Cut, where the work is continued on the same scale as heretofore, there is no dimunition in the output, as the following table shows:

	1907.	1908.	1909.
March..................	815,270	1,290,885	1,511,397
April	879,527	1,242,574	1,291,844
May..................	690,365	960,840	1,126,963
June	624,586	1,134,032	1,242,134
July	770,570	1,121,325	1,200,828
August..................	786,866	1,171,927	1,173,370

Compared with August, 1908, the excavation in August, 1909, shows better work than even the number of cubic yards indicates. In August, 1908, there were 52½ shovels at work and in August, 1909, only 48 shovels. The chief difference, however, is in the falling off in car service, due to the long haul now made by spoil trains to Gatun, 14½ miles beyond Tabernilla, whereas in 1908, the longest haul was to Tabernilla.

Naos Island Breakwater.

The slide on the breakwater from Balboa along the Pacific entrance to the Canal to Naos Island, a distance of three miles, continues. The point at which the greatest difficulty is experienced in getting the embankment to stand is across the channel through which vessels formerly sailed up to the Balboa wharf. This channel was kept open by dredging for several years, and was filled only six months ago when the new channel was opened to navigation. Rock and earth have been dumped into it, and the embankment has been brought to grade several times, but each time has sunk, carrying with it the trestle on which the dump trains run. A new trestle has been driven after every sinking and more material has been dumped in, and this process will be continued until the embankment stands at the grade desired.

The bottom of the French channel is much like the land on which the construction of the old Sosa dam was begun, and like the latter, gives way when a weight heavier than itself is imposed upon it. It will continue to give way until the material being dumped there either rests on solid bottom or spreads out over a sufficient area, and then the sliding will cease and the breakwater will become as stable as the toe of the old Sosa dam, over which heavy trains have been running daily for two years without any settlement occurring. Although the embankment to Naos Island is serving the useful purpose of keeping cross currents out of the new channel, and will be of other utility when the island is connected with the mainland, its primary purpose was that of a dump for spoil from Culebra Cut, and it is serving this well.

If it were desired to complete the break-

NOTES OF PROGRESS.

(*Continued.*)

water in the next few months the slide might be regarded as serious, but there is ample time and material. The breakwater will reach Naos Island long before the excavation in the south end of Culebra Cut is finished. The Central Division will probably continue to use it as a dump, however, merely broadening out the present narrow embankment.

Chamé Sand for Gatun.

An order for 20,000 cubic yards of Chamé sand for use in the concrete operations at the Gatun Locks has been placed with the Pacific Division, and the first train load for there was sent out Thursday, September 11. It is being conveyed in steel dump cars, each containing about 22 cubic yards, and will be shipped at the rate of one train load per day until the order is filled.

The ladder dredge *Mole* was taken to Point Chamé a few days ago, where it dredged 3,000 cubic yards of sand, and then returned to its work in the Canal channel at Balboa. The demand for sand so far has been comparatively light, and the dredge can quickly fill all the barges available. The ladder dredge *Gopher* has been undergoing extensive repairs at the shipways, and when these are completed, which will be within a week or ten days, it will probably be assigned to the sand dredging work. Until the demand for sand is continuous, however, it is not purposed to keep a dredge steadily at Point Chamé.

The sand is transferred from the barges to the cars at Balboa, as required, by a crane working a clam-shell bucket. This method of unloading is somewhat slow, but it is the only available means at present, as the three unloading cranes intended for this work have not yet been erected. Parts of one crane are on the ground, and the work of assembling will begin within a few days.

Slides Cut Off Rio Grande.

The slides along the west bank of Culebra Cut at Culebra have carried so much of the earth in the bank toward the Cut that the old line of the Panama railroad, on which Central Division trains have been running to the Rio Grande compressor and machine shop, will not be safe much longer. Plans have been approved for opening a way from the main line of the Panama railroad through Rio Grande quarry past the crusher plant to the compressor and machine shop. Trains will run on the main line to a point near the quarry, where they will turn north through a cut in the rock to the compressor plant. About 900 cubic yards of rock excavation must be done to open this road. Long distance signals will be installed to guard the switch, and telephone communication will be established between the switch station and the block tower at Culebra in order to guard the main line against possible accident. This is one of the stretches of line where the Panama railroad has not been double tracked.

Miraflores Power House.

One unit of the equipment at the Miraflores power house will probably be ready for testing out within a week or ten days. An exciter, which forms part of the machinery, is being used for testing purposes in connection with the switchboard installation, and is operated by power furnished by a hoisting engine. The work on the switchboards is well advanced, but the wiring has been retarded to some extent by dampness accumulating in the insulation, which it is necessary to dry out. The boiler work is practically completed.

High School Pupils.

The Division of Schools would like to have the names of all parents whose children will attend the high schools of the Canal Zone during the present year, together with the number of children to be enrolled. Parents are requested to write at once to the Superintendent of Schools, Ancon.

Reservoir for Gatun Water Supply.

In the work of providing a water supply for Gatun, by impounding the water of the creek known as Quebrada los Guacas, a trestle has been driven along the axis of the proposed Agua Clara dam, and rock from Mindi, and clay from a pit near the reservoir are being dumped there. The mixture of rock and clay will form a tight dam. Before the filling was begun, a waste culvert was set and a water main laid through the dam site, and the water was thus diverted.

Additional Telephone Facilities.

A private branch telephone switchboard has been installed in the Administration Building at Ancon for the use of the various divisions of the Department of Civil Administration. The apparatus consists of a Western Electric cordless switchboard with a capacity for 33 subscriber lines, and is connected with the main exchange by three trunk lines. The switchboard serves eleven stations, four on private lines in the offices of the head of the Department of Civil Administration, three on a party line in the offices of the Chief of Police and Prisons, two on a party line in the offices of the Superintendent of Schools and two on a party line in the offices of the Director of Posts. The installation of this equipment improves the service, and does away with three of the six trunk lines to the main exchange, which were previously in use. An operator will be on duty at the switchboard during business hours.

Indemnity for American Sailors.

Washington, Aug. 31.—Through the State Department, Acting Secretary Winthrop has received $14,000 from the Panamanian Government, paid by it as money reparation in the cases involving the maltreatment of American naval officers and seamen at the hands of the police of that Republic.

Of this amount $5,000 is indemnity in what is known as the cruiser *Columbia* incident, when several officers in uniform were arrested, locked up and roughly handled in Colon on June 1, 1906. The assault, it is declared, was entirely unprovoked.

An indemnity of $8,000 will be paid to the relatives of Charles Rand, a boatswain's mate on the cruiser *Buffalo*, who was killed in Panama in September, 1908, and $1,000 will be given to Joseph Cieslik, a sailor of the same vessel, who was stabbed at the time Rand was killed. Panama also has agreed to make other amends to the United States Government for the indignities suffered by these men.

The *Cristobal*, on the voyage that ended at Cristobal on September 9, brought 18,000 barrels and 23,959 bags of cement for the lock work at Gatun and Pedro Miguel.

GATUN LOCKS.

Some Changes Made in the Automatic Electric Cars—Concrete Work.

The work of laying concrete in the locks at Gatun has been handicapped by the readjustment necessary in the automatic electric cars that carry materials from storage to the mixers. Two of these cars have been taken apart at Gorgona shops and some alterations have been made in them, such as changing the gear from chain to sprocket. It is probable that all of the 42 cars will be changed materially. Meanwhile the concrete plant has not ceased running, and between August 24, when the work was begun, and September 11, inclusive, 4,282 cubic yards of concrete were laid, an average of about 252 cubic yards a day. The maximum capacity of the plant is 1,920 cubic yards in eight hours. At present the concrete gangs are working in two 6-hour shifts, and as soon as electric lights are installed the concrete laying will be carried on in two 8-hour shifts, 16 hours a day. Only the concrete work is done in two shifts, all the other work being carried on in the 8-hour day.

The concrete is being laid on the floor of the upstream locks and in the wall which will separate them. The lateral culverts are being placed. For the concrete around the culverts a finer grade of sand than is being sent from Nombre de Dios is desirable, and on this account 20,000 cubic yards of sand from Chamé have been ordered by the Atlantic Division. As soon as the 12-inch suction dredge now on order is installed at Nombre de Dios, making it possible to wash clay out of the sand while loading it into the barges, the sand from that place will be satisfactory for all purposes, as it is now for all except the culvert work.

Concrete work in the spillway of Gatun Dam has reached a point where it is not possible to utilize the full output of the spillway concrete plant. In order to make use of the surplus concrete from this plant by placing it in the locks, and later to utilize the locks' mixer plant in case it is desired to rush work on the spillway dam, a narrow gauge railroad has been built from the spillway mixing plant to the west bank of the lock site. Concrete from the spillway mixers will be delivered to the railway running along the lock site, and will be handled by the cableways in the same manner as the concrete from the locks' mixing plant. The ruling grade of the railroad is four per cent, the length about one mile, and the concrete will be hauled up to the lock site by the 18-ton locomotives used in the spillway plant. About 400 cubic yards of concrete a day can be delivered in the locks in this manner without interfering with the concrete work in the spillway.

Two of the 45-ton steam shovels hitherto in use in the Central Division have been sent to Gatun where they will be put on excavation in the lock site. This addition to the equipment in the lock site is made in order that the excavation may be kept well in advance of the concrete laying.

Slide at Mindi.

Work in the hills at Mindi has been retarded by a slide which occurred on August 23, enveloping the 90-ton steam shovel at work there. The three 70-ton shovels continued at their work, but the monthly excavation fell below that of previous months on account of the damage to the largest shovel and other inconvenience caused by the slide.

ANCON HOSPITAL ADDITION.

New Buildings Containing Surgical Wards Practically Completed.

The two new buildings at Ancon Hospital, which will contain four surgical wards, Nos. 7, 8, 9 and 10 in section "B," are nearing completion, and constitute the largest ward buildings in the reservation. Each structure is of two stories, the largest one extending nearly east and west, while the other extends north and south, forming a wing at a right angle. The buildings are intercommunicable, and are separated by a hallway only. The new additions are located well up on the slope of Ancon Hill, and from the upper stories a splendid view of Ancon, Panama, and the bay can be obtained. An old French ward building formerly occupied the site, and was demolished when the present work was commenced. The stone piers upon which it rested, however, were found in a good state of preservation and were utilized for the new buildings as far as possible. The wards will be used for the treatment of negro patients, and will give an additional capacity to the hospital of 150 persons.

The larger building is 180 feet 5 inches in length, and 37 feet 8 inches in width over all, while the smaller structure is 125 feet long and 37 feet 8 inches wide over all. The second story of the larger building will be known as ward No. 10, the lower floor as ward No. 8. The second story of the other building will contain ward No. 9, and the first floor ward No. 7. The buildings have a wide screened-in veranda all around, both upstairs and down.

The first floor of the larger building contains a diet kitchen, 20 feet 8 inches by 12 feet in size, having two copper sinks, stove, and suitable shelves for utensils and dishes; a surgeon's dressing room, equipped with the necessary appliances and fixtures, including a surgeon's sink, and an ordinary sink; an office for the head nurse, a linen room, one isolation room, a clothes room fitted with 150 compartments for the storing of patients' clothes upon entering, dormitory space for 32 beds, a dining room; three toilets for the use of patients, with four lavatories, two sinks and two showers, and a private toilet. The arrangement is somewhat similar on the second floor. There is the same dormitory and dining room space, with the same number of toilets, including a private toilet for the nurses. In addition, there are three isolation rooms, and a strong room for the uncontrollable patients.

The arrangements on both floors of the smaller building are practically identical. There will be dormitory space for 38 beds in each story, and four toilets, with two sinks, four lavatories, one shower and one bathtub. The patients use the dining rooms located in the large building.

The main entrance is located about midway of the front or north side of the principal building, from which a walk will lead to a flight of massive stone steps, built during the French régime, which descends to the road. A hallway divides the main building, from which stairs ascend to the second floor. A second flight of stairs ascends from the hallway between the two buildings. An emergency flight of stairs extends from the ground to the second floor on the outside at the west end of the larger building, while another emergency stairway is located in the rear of the smaller structure.

Caution to Employes.

An ex-employe of the Commission was arrested at Empire recently for attempting to use an employe's half-rate request. He was tried on a charge of fraud and sentenced to five days' imprisonment. A few days ago a man who presented a request and the employe who gave it to him were arrested and fined $17 gold. The agents of the Panama Railroad Company have been notified of the decisions in these cases, and the same action may be expected in any similar cases which arise in future.

Lubricating Oil.

A contract has been made with the New York Lubricating Oil Company to supply the following quantities of oil for the Canal work:

Engine oil, 25,000 gallons, at 22 cents a gallon; valve oil, 20,000 gallons, at 31 cents a gallon; car oil, 20,000 gallons, at 18 cents a gallon; oil for marine machinery, 20,000 gallons, at 30.75 cents a gallon. The amounts given are merely estimates of what will be required during the first three months of the contract and may be increased or diminished by 50 per cent as the Commission desires. If the three months' trial shows that the oils are what the Commission requires the contract may be extended over a period of a year, and in that event the amounts given above would represent about one-fourth of the oil to be purchased. One of the terms of the contract is that an expert in the use of oils shall be kept on the Isthmus by the contractor.

Police Report for August.

The August report of the Chief of the Division of Police and Prisons shows that 535 arrests, representing 51 nationalities, were made in the Canal Zone during the month, as compared with 529 in July, an increase of six. Of the August arrests 498 were men and 37 were women, the offenses with which they were charged aggregating 54. The arrests were distributed as follows: Ancon, 33; Las Sabanas, 4; Balboa, 27; Corozal, 6; Miraflores, 8; Pedro Miguel, 16; Paraiso, 28; Culebra, 38; Empire, 84; Las Cascadas, 21; Bas Obispo, 19; Gorgona, 44; San Pablo, 6; Tabernilla, 13; Bohio, 15; Gatun, 84; Cristobal, 80, and Porto Bello, 9. The police force numbered 251 men on August 31, including 69 men on special duty, a net increase of two for the month. The pay roll amounted to $19,292.81.

There were 52 criminal cases tried in the Circuit Courts, 17 of which were dismissed, 4 continued, 1 resulting in acquittal, and 28 in which convictions were secured. Of the 28 persons convicted, 6 were sentenced to the penitentiary and fined; 8 received penitentiary sentences only; 2 were sentenced to the common jail and fined, and 12 received fines only. Sentence was suspended in one case. Forty-five civil cases were tried during the month, and the sum of $2,549.41 was collected in executions.

The Zone convicts numbered 119 on July 31; received during August, 14; discharged, 10; total on August 31, 123. The number of district prisoners on the same date was 111. The prison pay-rolls for the month amounted to $1,527.83; cost of prisoners' subsistence, $892.75, a total expense of $2,420.58. The value of work performed by prisoners on Zone roads was $2,024.22.

There were 14 deaths by violence during August requiring action by the Coroner, 6 of these being due to accidental drowning; 5 to railroad accidents; one to accidental shooting, and two to accidental traumatisms. Jules Masse, a district prisoner in jail at Bohio for assault with intent to commit murder, attempted suicide in his cell on August 18 by hanging himself to a rafter with a rope made of his shirt-sleeves. He was discovered in time and cut down.

There were nine deportations during the month, five to Barbados, one to Jamaica, one to Cuba, one to St. Kitts, and one to the United States.

Money Order Business in August.

During the month of August, 1909, the sixteen post-offices of the Canal Zone in which a money order business is done, sold 15,466 orders, aggregating in value $409,481.22. This is an increase of 32 over the number issued in July, but a decrease of $7,896.88 in value. Of the August business, $309,540.07 represented orders drawn payable in the United States, $99,913.15 in orders drawn payable in the Canal Zone, and $28 in orders drawn payable in Martinique. The fees collected amounted to $1,764.15, as compared with $1,790.08 for the month of July. The orders paid and repaid amounted to $115,308.47, which includes $1,743.90 representing invalidated money orders paid by warrants on the Treasurer. The postal sales were $5,944, of which amount $3,566.40 accrued to the Canal Zone postal system, and $2,377.60 to the Republic of Panama. The revenue from newspaper postage was $14.51.

In the number of orders drawn, Cristobal was first with 2,988; Empire second with 1,929, and Ancon third with 1,554. In the total value of orders drawn, Cristobal was first with $79,089.04; Empire second with $42,091.97, and Gorgona third with $40,434.66. Of the amount payable in the United States, Cristobal was first with $68,969.49; Empire second with $33,651.19, and Gatun third with $29,382.97. In orders payable in the Canal Zone, Gorgona was first with $12,421.23; Pedro Miguel second with $10,286.15, and Cristobal third with $10,119.55. Of the amount paid and repaid, Cristobal was first with $24,740.24; Gorgona second with $11,925.78, and Pedro Miguel third with $10,419.49.

The average of all the orders issued was $26.47. The highest average was at San Pablo where 379 orders, amounting to $13,656.41 were issued, an average of $36.03; the lowest was at Matachin where 201 orders amounting $3,544.63 were issued, an average of $17.63.

Atlantic Dredges on Dock Work.

The dredging record of the Atlantic Division, which is published elsewhere in this issue of THE CANAL RECORD, was much lower in August than in months past on account of several of the dredges being out of the Canal service. The sea-going suction dredge *Caribbean* was out of service 100 hours on account of a strike among the oilers. Part of the month the *Caribbean* and the dipper dredge *Mindi* were dredging on Panama railroad dock work at Cristobal.

RECORD OF EXCAVATION SINCE AMERICAN OCCUPATION.

MONTHLY TOTALS BY CUBIC YARDS, PLACE MEASUREMENT.

ATLANTIC DIVISION.

COLON—STEAM SHOVELS.

Months.	1907*	1908*	1909	
	From Canal Prism	From Canal Prism	From Canal Prism	Outside Canal Prism
January	....	62,835	45,664	....
February	....	65,632	46,046	....
March	....	81,850	70,713	....
April	....	67,436	74,368	....
May	....	54,333	71,407	....
June	....	32,022	80,101	....
July	731	23,515	82,378	....
August	15,257	16,309	66,249	....
September	28,837	32,112	....	....
October	41,078	45,475	....	....
November	40,003	47,183	....	....
December	46,945	62,253	....	....
Totals	172,851	590,955	536,926	....

Total to September 1, 1909—1,300,732 cubic yards.
*No work done outside of Canal Prism

COLON—DREDGES.

Months.	1907		1908		1909	
	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	....	111,100	444,403	46,298	521,050	....
February	....	110,002	401,887	25,835	444,910	....
March	....	84,145	515,223	31,663	461,208	....
April	....	69,889	496,366	....	470,635	....
May	....	133,847	564,386	....	315,370	....
June	17,000	107,118	572,749	....	182,575	....
July	104,322	5,600	625,497	....	348,451	....
August	189,170	5,127	638,217	....	422,846	....
September	403,842	....	624,776	....	....	....
October	409,632	5,488	505,260	....	....	....
November	417,297	5,500	570,832	....	....	....
December	428,053	14,782	679,604	....	....	....
Totals	1,969,316	652,598	6,639,200	103,796	3,167,045	....

Total to September 1, 1909—13,959,420 cubic yards.

In this total are included 399,820 cubic yards excavated in 1905, and 1,027,645 cubic yards in 1906. There were also 38,425 cubic yards removed by dredges at the Gatun dam site in 1907.

GATUN LOCKS, DAM AND SPILLWAY—STEAM SHOVELS.

Months.	1907		1908		1909	
	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	47,539	....	193,567	98,588	69,001	33,689
February	70,177	....	176,291	106,506	61,819	33,212
March	100,151	....	202,763	171,835	59,598	30,453
April	103,459	....	196,109	177,347	58,088	11,921
May	70.528	....	138,815	127,932	48,198	4,588
June	71,181	3,832	116,998	127,953	28,943	7,613
July	59,537	14,628	136,816	76,543	36,098	2,960
August	78,357	26,866	130,263	57,999	40,346	....
September	87,423	36,315	104,780	41,210	....	....
October	136,777	40,236	109,667	44,397	....	....
November	121,635	40.987	83,527	34,751	....	....
December	160,795	69,756	65,950	53,954	....	....
Totals	1,107,559	232,620	1,655,546	1,119,015	402,091	124,436

Total to September 1, 1909—4,667,895 cubic yards.

In this total are included 26,628 cubic yards excavated from the Canal prism October to December, 1906. In addition there were 488,533 cubic yards removed by dredges from Gatun locks in December, 1908, January, February, March, April, May, June and July, 1909.

CENTRAL DIVISION.

CULEBRA SECTION—STEAM SHOVELS.

Months.	1904	1905	1906	1907	1908	1909
January	....	70,650	120,990	566,750	1,227,022	1,150,249
February	....	75,200	168,410	639,112	1,248,265	1,194,454
March	....	132,840	239,178	815,270	1,290,885	1,511,397
April	....	126,749	213,177	879,527	1,242,574	1,291,844
May	27,556	75,935	196,209	690,365	960,840	1,126,963
June	32,551	76,905	212,623	624,586	1,134,032	1,242,134
July	31,599	78,570	159,789	770,570	1,121,325	1,200,828
August	35,056	49,210	244,823	786,866	1,171,927	1,173,370
September	25,220	44,085	291,452	753,468	1,122,860	....
October	19,695	52,940	327,009	834,499	1,160,101	....
November	28,860	60,540	221,642	790,632	1,022,576	....
December	42,935	70,630	307,689	1,025,485	1,210,046	....
Totals	243,472	914,254	2,702,991	9,177,130	13,912,453	9,891,239

Total to September 1, 1909—36,841,539 cubic yards.

CHAGRES SECTION—STEAM SHOVELS.

Months.	1907*	1908		1909	
	From Canal Prism	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	....	169,447	....	389,399	....
February	....	200,145	....	450,182	....
March	....	324,233	....	542,691	....
April	....	329,483	....	490,922	....
May	....	235,902	....	386,170	....
June	....	322,145	....	275,900	....
July	....	345,757	....	233,897	....
August	2,900	366,810	1,873	231,543	....
September	21,546	346,948	....	....	....
October	25,627	424,911	....	....	....
November	44,044	336,390	....	....	....
December	98,652	383,948	....	....	....
Total	192,769	3,786,119	1,873	3,000,704	....

Total to September 1, 1909—6,981,465 cubic yards.
*No work done outside Canal prism.

CANAL EXCAVATION TO DATE.

		Cu. Yds.
By French Companies		81,548,000
By Americans—		
Steam shovels	52,132,067	
Dredges	32,268,746	
Total		84,400,813
May 4 to December 31, 1904	243,472	
January 1 to December 31, 1905	1,799,227	
January 1 to December 31, 1906	4,948,497	
January 1 to December 31, 1907	15,765,290	
January 1 to December 31, 1908	37,070,887	
January 1 to August 31, 1909	24,573,440	

EXCAVATION IN TERRITORY OF PRESENT DIVISIONS

May 4, 1904, to August 31, 1909.

DIVISIONS.	Amount excavated. Cubic yards—Total.		Estimated amount yet to be excavated. Cubic yards—Total.	
Atlantic—				
Dry excavation	5,968,627	20,455,005	3,593,284	22,622,306
Dredges	14,486,378		19,029,022	
Central, all dry excavation—				
Culebra Cut	36,841,539	43,823,004	41,163,058	45,971,489
All other points	6,981,465		4,808,431	
Pacific—				
Dry excavation	2,340,436	20,122,804	3,590,144	21,671,987
Dredges	17,782,368		18,081,843	
Grand totals		84,400,813		90,265,782

PACIFIC DIVISION.

PEDRO MIGUEL LOCKS—STEAM SHOVELS.

Months.	1908		1909	
	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	....	....	83,726	....
February	....	....	57,138	1,104
March	....	....	93,261	2,363
April	....	....	101,365	....
May	....	....	57,523	....
June	6,832	6,396	70,971	....
July	18,964	3,684	77,503	....
August	21,203	1,014	58,025	....
September	28,750	83	....	....
October	47,688	1,187	....	....
November	55,401	....	....	....
December	65,578	....	....	....
Totals	244,416	12,364	599,512	3,467

Total to September 1, 1909—859,759 cubic yards.

MIRAFLORES LOCKS, DAMS AND SPILLWAY—STEAM SHOVELS

Months.	1908		1909	
	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	7,203	....	54,383	6,819
February	38,661	385	44,294	9,395
March	67,963	5,231	46,616	4,801
April	92,261	6,682	38,275	21,785
May	54,606	18,417	30,723	16,865
June	68,691	....	39,942	15,711
July	87,675	16,694	43,736	7,263
August	91,065	3,183	35,338	108
September	88,605	2,318	....	....
October	71,201	3,499	....	....
November	47,109	5,821	....	....
December	65,416	4,234	....	....
Totals	780,456	66,464	333,307	82,747

Total to September 1, 1909—1,262,974 cubic yards.

There were also 78,233 cubic yards removed by steam shovels at Balboa locks and dams in 1907; 139,298 cubic yards at Cardenas Hill March to December, 1908, and 245,817 cubic yards by dredges at Miraflores locks in January, February March, April, May, June, July and August, 1909.

BALBOA—DREDGES

Months.	1905	1906	1907		1908	1909
	Outside Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism	From Canal Prism	From Canal Prism
January	....	95,940	....	94,710	460,250	469,529
February	....	95,940	....	93,480	663,519	671,477
March	....	116,820	....	92,319	783,281	865,696
April	....	110,700	....	104,855	676,539	731,767
May	....	112,340	....	122,157	530,466	720,753
June	50,676	62,697	64,352	69,223	656,621	844,685
July	41,533	98,400	108,338	....	696,170	733,181
August	54,530	111,930	168,284	....	737,774	623,263
September	114,308	105,780	144,625	9,250	750,080	....
October	81,836	97,170	357,122	....	762,276	....
November	71,176	92,988	365,423	....	609,089	....
December	71,094	90,528	349,551	....	729,960	....
Totals	485,153	1,191,233	1,557,695	586,094	8,056,025	5,660,351

Total to September 1, 1909—17,536,551 cubic yards.

There were also 172 cubic yards removed by steam shovels outside of the prism during October, 1908.

GATUN LAKE EXCAVATION.

Progress of the Work in the Canal Channel.

In that part of the Central Division which extends from Gatun Dam to the beginning of Culebra Cut at Bas Obispo, a distance of 22 miles on the center line of the Canal, excavation is confined to a number of small hills in the prism that rise above the proposed bottom of the Canal, which is at 40 feet above sea level. When the work was begun by the Americans, the amount to be excavated in this territory was 11,752,198 cubic yards, about 4,000,000 cubic yards of which it is proposed to remove by suction dredges after the water in Gatun Lake has reached a sufficiently high level. Excavation thus far has been by steam shovel and by hand, and on September 1, 6,981,465 cubic yards had been taken out. ,

BOHIO AND BUENA VISTA.

A steam shovel was set at work on a hill at Bohio in the prism of the Canal about two weeks ago, and it will excavate 28,559 cubic yards of earth and soft sandstone. The equipment includes five well drills to make holes for the dynamite charges, and two trains of 10-yard dump cars which haul the material to Gatun Dam, a distance of about eight miles. The hill that is being taken down is near the Panama railroad, and is the only excavation at Bohio on the right bank of the Chagres River that will be done by steam shovel. A large quantity of old French iron and steel that is included in the scrap advertised for sale is located around this hill, and it was necessary to lay a track in order to bring it out onto the Panama railroad. This track is utilized in the steam shovel work. The remainder of the work at Bohio on the right bank of the river is being done by hand, and the spoil dumped into the old French canal and diversion channels by Decauville cars. On the left bank of the river, however, 179,000 cubic yards of material are to be taken out by steam shovel. Plans are being made to build a bridge across the river and to have this excavation done during the dry season, when there will be little difficulty in maintaining the bridge.

Only 203,151 cubic yards remained on September 1 to be excavated at Buena Vista, a mile southeast of Bohio, 30,791 cubic yards having been taken out by the steam shovel at work on the two hills at this point in August. The spoil from Buena Vista is also hauled to Gatun Dam.

CAÑO RIVER AND TABERNILLA.

What is known as the Caño River work of the Central Division is nearing completion. One shovel is at work on the toe of the hill, a part of which has been excavated to 40 feet above sea level. This is situated along the right bank of the Chagres River opposite Tabernilla, between 24 and 25 miles from the beginning of the Canal in the bay of Limon. When it is completed, 698,382 cubic yards of earth and rock will have been taken out and dumped in the Chagres and at two other nearby dumps. The short hauls to these dumps assisted greatly in the rapid completion of the work. The first steam shovel was "cut in" at this point on December 15, 1908, and most of the excavation was done by two shovels. Some delays were experienced because of freshets in the Chagres, and several times the tracks leading to the river dump were washed out.

At Caño River the Canal crosses the Chagres to Tabernilla, and the prism for some distance includes the present line of the Panama railroad. Between miles 21 and 23, near Tabernilla, 364,472 cubic yards of material must be excavated to bring the channel down to 40 feet above sea level. The material is almost wholly earth. It lies in a long low ridge, the maximum cut on which is only eight feet. To prepare this ridge for economical dredging it would be necessary to strip it and therefore it will be taken out by steam shovels. The land is covered by jungle growth and clearing will begin next month.

FINISHING THE WORK AT CAIMITO.

The steam shovel excavation at Caimito will be finished about December 1, 1909. The steam shovels at work there will then be moved to the prism near Mamei, after which the Caimito work will be finished by scraper and hand excavation. The work can be seen from the Panama railroad near San Pablo on the right bank of the Chagres River. It is situated between miles 26 and 27 on the line of the Canal, and includes the angle which the Canal makes at this point. It was begun on October 1, 1907, and most of the time since five steam shovels have been excavating there. Excavation was facilitated by a short haul for the spoil and by the fact that the floods of the river have seldom interfered with the shovels, and on but one occasion seriously delayed the work. Low water at this point is at 25 feet above sea level, making a rise of fifteen feet necessary before the excavation on the 40-foot level can be reached. The total amount of material excavated when the work is finished will be 2,207,509 cubic yards, and only 149,000 yards remained to be removed on September 1, 1909.

BEGINNING OF EXCAVATION AT MAMEI.

Clearing gangs are at work in the prism of the Canal near Mamei, between 27 and 28 miles from the beginning of the Canal in the bay of Limon. As soon as the two steam shovels now finishing their work at Caimito, are taken from that part of the Canal they will be moved to Mamei. The excavation to be done consists of a stretch of earth along the left bank of the Chagres River in which there are 323,586 cubic yards of material with a maximum height of 25 feet above the level of the Canal bottom; an island in the river in which there are 359 cubic yards with a maximum cut of 3 feet, and a stretch along the right bank of the river containing 183,000 cubic yards with a maximum cut of 20 feet. For the next few months work will be confined to the stretch on the left bank of the Chagres. Dumping grounds have been located near the work and the haul will be short. Low water in the river is at 27 feet above sea level at this point, and no trouble is anticipated from freshets, as a rise of 13 feet will be necessary to reach the lowest point of excavation. A flood of this magnitude in the Chagres seldom occurs and is always of short duration.

WORK IN THE PRISM AT GORGONA.

Excavation at "Point 3," as the peninsula in the Chagres River back of Gorgona is called, has been in progress since July, and on September 1 there had been excavated 103,880 cubic yards, while 750,670 cubic yards remained. Two steam shovels are doing this work. Low water in the river at this point is 37 feet above sea level and, as the bottom of the Canal is to be excavated to 40 feet above sea level, excavation on the lower levels would constantly be subjected to overflow from rises in the river, which during the rainy season are usually above the 40-foot level. On this account the steam shovels are working only on that part of the peninsula which is above the 50-foot level.

Meetings of Mechanical Representatives.

Representatives from the various mechanical shops on the Isthmus are holding biweekly meetings for the purpose of correlating their work, and thus effecting economies in time and money. The first meeting was held at Culebra, August 1, at which time the Chief Engineer addressed the men and introduced the Superintendent of Motive Power and Machinery as chairman of the committee. Various matters pertaining to records and office work were considered. The second meeting was held at Gorgona on August 17, when a thorough inspection of the shop and foundry was made. At Gorgona all the foundry work for the Canal and Panama railroad equipment that can be handled more economically on the Isthmus than by placing orders in the States is done. There has been a lack of uniformity in methods of placing orders by the various divisions, and there has even been some duplication of pattern work, due to the fact that no uniform method of ordering has been pursued. This difficulty was the chief theme of discussion at the meeting. The third meeting was held at Mount Hope and Cristobal on August 31. At Mount Hope the marine shop and dry dock were inspected, and the dredges undergoing repairs were visited and the machinery discussed. A trip was made on the sea-going suction dredge *Caribbean*, and the machinery was inspected while the dredge was at work. Later, the committee visited the Panama railroad shops at Cristobal. A meeting was held at Balboa on September 14, when the marine shops, floating equipment, and power plant were inspected. The meetings are attended by representatives of the various divisions of the Canal and Panama railroad work, who are in immediate charge of the mechanical work in connection with the maintenance of shop and field repairs.

Police Department Outposts.

Effective September 1, the police station at Las Sabanas was made an outpost of the station at Ancon. This change reduces the force at that point from five to three men, a corporal and two privates. A new outpost has been established near the Las Cascadas plantation, called Camp Plantation, with a private in charge. There are now eight outposts in the territory covered by the Zone police department, as follows: Mount Hope, tributary to the Cristobal station; Frijoles, tributary to Tabernilla; Matachin, to Gorgona; Buena Vista, to Las Cascadas; Camp Plantation and Cerro, to Empire; Cucaracha, to Paraiso, and Las Sabanas, to Ancon.

A mounted patrol was established on September 2 in connection with the Ancon station, consisting of two men, one on duty between 3 p. m. and 10 p. m., and the other between 10 p. m. and daylight. This patrol covers the territory along the new Ancon road and over the Balboa road to the commissary.

STEAM SHOVEL RECORDS.

Work Accomplished in the Central Division During August, 1909.

During the month of August the total amount of material excavated in the Central Division was 1,404,913 cubic yards, of which 361,558 cubic yards were classified as earth, and 1,043,355 cubic yards as rock. Of this quantity, 1,376,386 cubic yards were removed by steam shovels, 24,499 cubic yards by hand, and 4,028 cubic yards by sluicing fill in the Obispo Diversion. The quantity of material removed from the Canal prism was 1,400,885 cubic yards, while 4,028 cubic yards were removed from the Obispo Diversion.

The high record for the month was made by shovel No. 223, working in the Culebra District, which excavated 45,694 cubic yards of earth in 26 working days. Shovel No. 204, working eight days in the Culebra District and 18 days in the Empire District, excavated 16,755 and 26,518 cubic yards respectively, a total of 43,273 cubic yards, the second best record for the month.

Shovel No. 217 in the Culebra District made the high record for one day by excavating 2,549 cubic yards of rock and earth on August 31.

The best record for a shovel in the 70-ton class was made by shovel No. 108 working in the Bas Obispo District which excavated 31,299 cubic yards of earth in 26 working days. Shovel No. 127, working in the Tabernilla District, excavated 1,750 cubic yards on August 14, being the high record for one day for a 70-ton shovel during the month.

Monthly records are computed by place measurement, while the daily records are based on car measurement. The best records for the month and for one day in each district are shown below:

Best Records for the Month.

Shovel No.	Cubic Yards.			No. of days at work.
	Earth.	Rock.	Total.	
TABERNILLA DISTRICT.				
131	20,351	8,722	29,073	26
254	26,695	1,704	28,399	17
BAS OBISPO DISTRICT.				
232	8,885	35,541	44,426	26
229	8,087	24,261	32,348	26
EMPIRE DISTRICT.				
203	....	41,535	41,535	26
202	....	34,632	34,632	24
CULEBRA DISTRICT.				
223	....	45,694	45,694	26
219	....	40,774	40,774	26

BEST RECORDS FOR ONE DAY.

Shovel No.	Location.	Date.	Character of material excavated.	Cubic yds. excavated.
254	Tabernilla.......	Aug. 12.	Earth..........	2,260
254	Tabernilla.......	Aug. 11.	Earth..........	2,080
232	Bas Obispo......	Aug. 23.	Rock and earth	2,276
229	Bas Obispo......	Aug. 28.	Rock and earth	2,057
265	Empire...........	Aug. 2.	Rock...........	2,323
215	Empire...........	Aug. 24.	Rock and earth	2,256
217	Culebra..........	Aug. 31.	Rock and earth	2,549
217	Culebra..........	Aug. 28.	Rock and earth	2,466
208	Culebra..........	Aug. 30.	Rock and earth	2,361

Obituary.

Lyall Callender, a resident of the city of Panama, native of Trinidad, and engaged as a car repairer on the gold roll of the Mechanical Division, was killed while at his work at Balboa on the afternoon of September 8. He was engaged in repairing the drawhead of an unloader on the dumps when a car, shunted onto the track on which the unloader was standing, knocked him off and ran over him. He had resided on the Isthmus about twenty months.

Abelard Giasson of Waterbury, Conn., an enlisted man in the Marine Corps stationed at Camp Elliott, was drowned in the Chagres River at Cruces on September 6. He was born in Canada in 1878 and had been on the Isthmus about 21 months.

Slide at Pedro Miguel.

A slide occurred at the Pedro Miguel Locks on Wednesday, September 1, which involved a section of the east bank, about midway between the sites of the lock gates. Previous to the slide a wall of rock extended upwards at this point for several feet from the bottom of the cut, which is at elevation plus 10. Above this the bank consisted of a boulder formation for a depth of a few feet, which in turn was overtopped by a mixture of comparatively loose rock and earth, forming part of an old French dump. There had been previous indications that the whole mass had become loosened during the earlier operations at that point by blasting. The effect of this blasting, and the removal of support as the cut grew in depth caused it to move.

In the slide the wall of shattered rock was simply pushed out into the lock chamber about 15 feet, and for a length of about 125 feet. It extended back from the former edge of the bank about 150 feet, and the crack in the ground appears irregularly along the surface for a distance of about 250 feet, stopping just short of a point where the bank rises still higher. The entire mass did not fall in, but sank instead, pressing the face of the bank outward. In some places the surface of the ground sank from three to four feet; in other places to a greater depth.

The slide came near carrying with it house No. 35, a remodeled French cottage, the ground breaking not four feet from the rear of the building. The chicken house and other appurtenances to the place, together with some fair-sized trees were included in the slide. The house has since been moved to a place of safety. A steam shovel working in the lock chamber close to the spot was partially buried, and badly damaged. The amount of material involved in the slide is estimated at 35,000 cubic yards, and will be removed.

Steam Shovel and Dredgemen.

Local No. 19, International Brotherhood of Steam Shovel and Dredgemen, will hold its monthly meeting on Sunday, September 19, at 2.30 p.m., in the Commission lodge hall at Empire. Important business will be considered.

S. I. LYONS,
Secretary and Treasurer.

Empire, C. Z., September 9, 1909.

Missing Men.

Information is desired with regard to the whereabouts of William Crow, white, age about 35 years; occupation, carpenter; last heard of in Panama, about two years ago. Any one having information is requested to send it to Guido B. Pompeji, Porto Bello, care Cristobal, C. Z.

Any intelligence with regard to the whereabouts of W. J. Rourke of Boston will be gladly received by Frank A. Doyle of Balboa, who holds information of value to him.

Mrs. L. L. Aulgur, No. 6436 Dauphin Avenue, Kansas City, Mo., desires information in regard to the whereabouts of her brother, William McNeff, who left the United States for the Isthmus about two years ago, and of whom nothing has since been heard.

Kangaroos.

Empire Court, No. 1, I. O. P. K., announces its second annual masquerade ball, which will be held at Kangaroo hall, Empire, C. Z., on Saturday evening, October 2, 1909. All Kangaroos and their lady friends are cordially invited to attend. Due cards must be presented at the door.

E. W. STOLBERG, *Comptroller.*

Empire, C. Z., September 8, 1909.

Knights of Pythias.

All Knights of Pythias who are interested in the organization of a Temple of the Dramatic Order, Knights of Khorassan, are requested to be present at a meeting to be held at Ancon hall, Ancon, on Sunday, September 19, at 3 p. m. C. C. JACKSON.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending September 22, 1909 (75th meridian time):

DATE.	Low.	High.	Low.	High.	Low.
	A. M.	A. M.	A. M.	P. M.	P. M.
Sept. 16.....	....	4.50	11.04	5.08	11.16
Sept. 17.....	....	5.18	11.35	5.36	11.48
			P. M.		
Sept. 18.....	....	5.46	12.08	6.03	....
Sept. 19.....	12.18	6.15	12.38	6.33	....
Sept. 20.....	12.51	6.47	1.14	7.08	....
Sept. 21.....	1.34	7.22	1.56	7.48	....
Sept. 22.....	2.06	8.05	2.43	8.38	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal and Colon during the week ended September 11, with supplies for the Isthmian Canal Commission:

Prinz Joachim, September 6, from New York, with 11 tons galvanized pipe and 15,000 pounds sal soda, for stock.

Rosa Lea, September 6, from Mobile, with 30 barrels sea coal facing, for foundry; 400,000 pounds pig iron, for foundry: 180 creosoted poles for Porto Bello; 90,000 feet white oak lumber, for stock; 250 untreated piling, for Atlantic Division; 1,047 untreated piling, for Pacific Division.

Abangarez, September 9, from New Orleans, with 88 creosoted piling, for Gatun; 12,250 feet yellow pine lumber, for car repairs, Gorgona; 49,653 feet yellow pine lumber, for Central Division; 80 tons machinery, for rock crushing plant, Balboa; 10 tons castings, for car repairs, Empire; 1 locomotive coaling crane, for Mechanical Division; 125 refrigerators, 45 tons cast iron pipe, and 588 cases kerosene, for stock.

Cristobal, September 9, from New York, with 18,000 barrels cement, for Atlantic Division; 24,000 bags cement, for Pacific Division.

Panama, September 9, from New York, with 30,000 electric fuses, 48,000 feet triple tape fuse, 100 cases toilet paper, 20,000 detonators, 8,000 pounds boat spikes, 4,050 bundles angle bars, 180 kegs track bolts, 300 cases lard oil, 150 cases yellow lubricating grease, 4,250 gallons valve oil, 50 coils drill cable and sand line, 55 tons steel shafting and 35,000 feet air hose, for stock; 292 packages pipe covering, for Gatun and Miraflores boiler plants; 24 packages pumping machinery, 5 packages electrical machinery, 529 pieces spruce lumber and 1 Thew steam shovel, for Pacific Division; 46 tons steel forms, 34 reels and 344 coils insulated copper wire, and 21 cases cableway repair parts, for Atlantic Division; 200 brake beams, for Mechanical Division, and a miscellaneous cargo aggregating 8,519 packages, weighing 746 tons.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

The Hearons Sisters Concert Company will remain on the Isthmus until September 27. The following engagements are yet to be filled: Thursday, September 16, Empire; Friday, September 17, Gatun; Saturday, September 18, Ancon; Monday, September 20, Porto Bello; Tuesday, September 21, Cristobal; Wednesday, September 22, Gorgona; Thursday, September 23, Empire; Friday, September 24, Culebra.

The number of library books withdrawn for circulation is averaging 45 per day.

Interest in amateur photography has steadily increased. More than 100 members have united in clubs for promoting this activity.

CULEBRA.

The bowling tournament games at Culebra last Saturday night resulted as follows:

Culebra.	*First.*	*Second.*	*Third.*	*Total.*
Lamster	137	194	197	528
Vogel	147	154	139	440
Winters	195	157	135	487
Edwards	146	148	182	476
Dougherty (capt.)	157	202	149	508
	782	855	802	2,439
Cristobal.				
Bullard (captain)	175	198	163	536
Barlow	194	168	151	513
Strong	173	158	167	498
Louch	154	121	197	472
Barte	164	160	194	518
	860	805	872	2,537

GORGONA.

The bowling tournament games at Gorgona last Saturday night resulted as follows:

Gorgona.	*First.*	*Second.*	*Third.*	*Total.*
Sexton	135	145	189	469
Lasker	151	161	115	427
McConaughey	120	164	166	450
Otis (captain)	166	159	159	484
Humphrey	141	202	159	502
	713	831	788	2,332
Empire.				
Brown	204	204	171	579
Gorham	148	185	130	463
Bardelson	139	134	157	430
Hinckley	163	215	195	573
Huson (captain)	194	194	175	563
	848	932	828	2,608

On Friday night a game of indoor baseball was played between two local teams known as Wright's Whirlwinds" and "Weiser's Wonders." The former team was composed of W. J. Wright, Clements, Barney, Emery, Ridge, Kenney, Charnley; the latter, of Weiser, Ward, King, Keenan, H. Wright, Buchanan, Harrison. The score was 26 to 15 in favor of the "Whirlwinds." James McGee was umpire.

CRISTOBAL.

The Hearons Sisters Concert Company entertained a large audience last Saturday night. Practically every seat in the hall was taken. The program was of a popular character.

Mr. Frank Gardner Smith, who for two years has been secretary of the railroad Y. M. C. A. in Elmira, N. Y., has been appointed as successor to Mr. Stickel at Cristobal, and will arrive on the *Advance* on September 16.

Concert by I. C. C. Band.

AT EMPIRE, C. Z.

Sunday, September 19, 1909, at 6 p. m.

PROGRAM.

1 March—*Festal Day*..........Roux
2 Selection—*The Grand Magul*..........Luders
3 Tone Poem—*In Lover's Lane*..........Pryor
4 Waltz—*Folle Estase*..........Milok
5 Medley Selection—*Don't Take Me Home*.... Von Tilzer
6 { *a* Bolero—*Isolina*..........Labory
{ *b*—*S. R. Henry's Barn Dance*..........Henry
7 Idyl—*Forge in the Forest*..........Michaelies
8 Overture—*Lustspeil*..........Keler Bela
9 Intermezzo—*Eldoray*..........Von der Mehden
10 March—*Show Folks*..........Wenrich

CHAS. E. JENNINGS, *Musicol Director.*

The next concert will be given at Gorgona, Sunday, September 26.

Proposals for Building.

Contract building. Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., September 24, 1909, and then opened, for the erection by contract of a recreation building at Corozal. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $200 when the contract is signed.

R. E. WOOD,
Acting Chief Quartermaster.

PERSONAL.

Mr. H. H. Rousseau, accompanied by his wife and child, arrived at Cristobal from New York on the *Cristobal* on September 9.

Mr. Henry Goldmark, designing engineer, sailed for the States on his annual leave on September 8.

Mr. L. D. Cornish, designing engineer, arrived at Cristobal on the *Panama* on September 9, returning from his annual leave in the States.

Mr. C. M. Saville sailed for the States on the *Ancon* on September 8.

Additional Married Quarters.

Two buildings at Balboa, one at East Balboa, two at Ancon, one at Gatun, and one at Cristobal, which were formerly either occupied by bachelor employes, or used as offices, have been vacated and are being converted into family quarters. Twenty-two additional families will thus be provided for at Balboa, four at East Balboa, six at Ancon, one at Gatun, and one at Cristobal, a total of 34.

The alterations to the three-story building, No. 26, at Balboa, have been completed, and the District Quartermaster has begun making assignments. Twelve families can be accommodated in this building. The work of converting building No. 28, located back of the post-office, has been begun, and when finished will take care of ten families. Building No. 106, at East Balboa, which was originally erected as an office for the Resident Engineer, will also be converted, and will supply room for four families.

The alterations to building No. 74 at Ancon, formerly the District Quartermaster's office, will convert it into quarters for unmarried women employes of the Commission, including school teachers, stationed at that point. The entire upper floor of the building will be set apart for their use, and they will be permitted to do light housekeeping. The lower floor will be made into quarters for one family. The type 5 building, No. 71, at Ancon, situated on the road between the police and fire stations, will also be converted into family quarters, housing four families, two on each floor. This building was formerly used as bachelor quarters.

Building No. 121, at Gatun, formerly used as an office by the Assistant Engineer in charge of municipal engineering work, has been vacated and is being converted into quarters for one family. The office of the Assistant Engineer was moved into the building occupied by the general offices of the Atlantic Division.

Building No. 12, at Cristobal, formerly used as an office by the District Quartermaster, is being converted into one-family quarters.

Ancon Baseball.

Another exhibition game of baseball was played at the Ancon park on Sunday, September 12, between the team of the Department of Civil Administration, and that of the Panama railroad at Balboa. The score was as follows:

Panama Railroad	0	0	1	1	0	0	0	1	0	3
Civil Administration	1	1	0	0	0	0	0	8	x	10

Batteries—Panama Railroad, Dixon and Ransom; Civil Administration, Russell and Rex. Umpire, Monroe.

The Civil Administration team has so far won two, and the Panama railroad team one of the series.

LOST—Left on train No. 4, on September 4, between Panama and Culebra, a lady's Panama hat. Reward for return to H. Rowe, Culebra.

OFFICIAL CIRCULARS.

In Charge of Third Division.

CULEBRA, C. Z., September 7, 1909.

CIRCULAR NO. 275:

Effective September 8, 1909, Mr. Charles T. Waring, Assistant Engineer, will be in charge of the work of the Third Division of the office of the Chief Engineer during the absence of Mr. C. M. Saville, Assistant Engineer, on leave.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Employes Attending Court.

CULEBRA, C. Z., September 9, 1909.

CIRCULAR NO. 276 (*Amending Circular No. 86*):

The following rules concerning the time of employes while attending court will be effective September 15, 1909:

1. When an employe of the Isthmian Canal Commission or of the Panama Railroad Company attends upon a court of the Canal Zone as a juror, he shall be allowed his usual compensation for the time lost from work on his regular pay roll in the same manner as if present and performing his ordinary duties. He shall be furnished transportation to and from the place of holding court. His actual and necessary expenses at court will be provided for by the court. The same rule as to compensation and transportation will apply to an employe attending as a witness in a criminal case, when summoned by the court.

2. The foregoing rule as to compensation and transportation will also apply when such employe attends upon a court of the Canal Zone as a witness in a civil case in which the United States, the Government of the Canal Zone or the Panama Railroad Company is a party, or is interested, if the attendance be on behalf of any one of them. It will not apply when an employe attends court as a witness in a civil case in which the United States, the Government of the Canal Zone or the Panama Railroad Company is not a party or interested.

3. Time lost from work and allowed on a pay roll to an employe attending as juror or witness shall include the time necessarily occupied in going to and returning from court, taking into consideration the actual time of arrival and departure of trains. An employe will receive no pay for any time consumed in traveling which is not a portion of his regular working hours.

4. Judges of district courts and clerks of circuit courts will issue a certificate of attendance in accordance with the facts in each case showing the time the employe is actually in attendance, and timekeepers will file such certificates with the time rolls.

5. In all cases in which, as hereinbefore provided, an employe is a witness and is allowed time, it shall shall be the duty of the district judge or the clerk of the circuit court to tax and, so far as possible, collect from the party (other than the United States, the Government of the Canal Zone or the Panama Railroad Company) liable therefor, the lawful witness fees and allowances due such employes, and pay the same to the Disbursing Officer of the Commission as to Commission employes, or to the Panama Railroad Company as to its employes, a monthly report of such collections to be rendered the Examiner of Accounts.

6. No charge will hereafter be made against the Department of Civil Administration, the Government of the Canal Zone or the Panama Railroad Company for the compensation or expenses of employes when they serve as jurors or attend as witnesses.

7. Employes when entitled to their time will not be paid fees as jurors, and if paid a witness fee by any person the amount will be at once deposited with the district judge or circuit court clerk.

H. F. HODGES,
Acting Chairman, Isthmian Canal Commission,
Second Vice-president, Panoma Railroad Company.

Changes in Quartermaster's Department.

CULEBRA, C. Z., September 8, 1909.

TO ALL CONCERNED:

Effective September 10, the following changes and appointments are announced:

Mr. John M. King, District Quartermaster at Culebra, is transferred to Las Cascadas for station.

Mr. Harry F. Sedwick, Assistant District Quartermaster at Culebra, is appointed District Quartermaster.

Mr. Charles D. Morgan is appointed Assistant District Quartermaster, Culebra.

R. E. WOOD, *Acting Chief Quartermaster.*

Arrivals and departures of vessels at Balboa during the week ended September 10, were as follows:

Arrivals—September 5, *San Jose*, from San Francisco; September 6, *Guatemala*, from South ports. Departures—September 5, *Newport*, for San Francisco; September 6, *Hornelen*, for South ports, and *Chiriqui*, for intermediate ports; September 7, *Chile*, for South ports; September 10, *Barracouta*, for Central America, and *Ecuador*, for Guayaquil.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning September 11:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Steak	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	27
Chops	per lb	29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	20
Cutlets	per lb	23
Pork cuts	per lb	22
Beef—Suet	per lb	4
Soup	per lb	6
Stew	per lb	10
Corned	per lb.	12, 14, 16
Chuck roast	per lb	14
Pot roast	per lb	16
Rib-roast, second cut (not under 3½ pounds)	per lb	19
Rib-roast, first cut (not under 3 pounds)	per lb	21
Sirloin roast	per lb	22
Rump roast	per lb	22
Porterhouse roast	per lb	22
Steak, Chuck	per lb	15
Round	per lb	16
Rib	per lb	21
Sirloin	per lb	22
Porterhouse	per lb	22
Rump	per lb	22
Tenderloin	per lb	27

MISCELLANEOUS.

Livers—Beef	per lb	11½
Calf	each	65
Shad roes	pair	40
Sausage—Pork	per lb	17
Bologna	per lb	17
Frankfurter	per lb	17
Leberwurst	per lb	17
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	30
Eggs, fresh	dozen	32
Bluefish	per lb	15

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls,	each	90, 1.00
Ducks, fatted	each	1.30
medium weight	each	90
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese, fatted, about 10 pounds	each	2.00
12 pounds	each	2.30

CURED AND PICKLED MEATS.

Bacon—Breakfast, whole piece	per lb	23½
Breakfast, sliced	per lb	§26
Ham—Sugar-cured, sliced	per lb	§25
One-half, for boiling	per lb	§21
Westphalia	per lb	45
Hocks	per lb	‡8
Sugar cured	per lb	20
Beef, salt, family	per lb	10
Pork, salt	per lb	15
Ham, boiled	per lb	28
Ox tongues	each	1.00
Pigs' feet	per lb	14
tongues	per lb	16

DAIRY PRODUCTS.

Butter—Prints, prime quality	per lb	38
Cheese—Roquefort	per lb	45
Philadelphia Cream	each	20
Young America	per lb	22
Swiss	per lb	31
Edam	each	1.05
Camembert	per lb	28
Neufchatel	each	6
Gouda	per lb	34
Parmesan	bottle	20
French cheese in tins—Camembert, Brie, Neufchatel	1-lb tin	20
Milk, Briarcliff	bottle	**25
Butter	bottle	**15

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	10
Lettuce	per lb	8
Potatoes, white, old	per lb	3¼
sweet	per lb	2½
Onions	per lb	3
Squash, Hubbard	per lb	5
Yams	per lb	3½
Turnips	per lb	3½
Carrots	per lb	*4
Beets	per lb	5
Potatoes, new	per lb	3½
Cucumbers	per lb	*4
Tomatoes	per lb	*5
Lemons	dozen	24
Grapes	per lb	10
Limes	per 100	80
Watermelons	each	40
Peaches	per lb	12
Canteloupes	each	5
Blueberries	box	18
Cabbage	per lb	4½
Apples	per lb	6
Oranges	dozen	12
Grapefruit	each	4

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight Saturday, September 4, 1909:

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft..	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Aug. 29...	131.0	96.1	53.8	11.4	4.8	4.0
Monday, Aug. 30..	128.8	95.4	51.1	8.5	3.1	2.6
Tuesday, Aug. 31..	130.2	95.7	49.5	6.5	2.7	2.2
Wed'esday, Sept. 1.	128.1	95.0	50.4	7.7	3.0	2.6
Thursday, Sept. 2..	130.5	96.0	50.4	6.8	3.0	2.3
Friday, Sept. 3.....	129.8	96.0	51.3	9.4	3.6	3.3
Saturday, Sept. 4..	128.6	94.9	50.0	7.9	3.0	2.5

Maximum height of Chagres River above mean sea level for the week ending midnight Saturday, September 11, 1909:

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft..	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Sept. 5....	129.4	95.4	50.8	7.5	2.8	2.3
Monday, Sept. 6....	132.4	97.0	51.9	8.5	3.2	2.6
Tuesday, Sept. 7...	129.2	96.2	52.1	10.8	4.4	3.5
Wed'esday, Sept. 8.	128.0	94.4	49.4	8.1	3.6	3.2
Thursday, Sept. 9.	129.7	95.5	50.4	7.5	2.9	2.2
Friday, Sept. 10...	131.2	96.6	51.4	8.9	3.2	2.3
Saturday, Sept. 11.	135.7	99.1	55.2	12.2	6.0	4.4

Rainfall, September 1 to 11, 1909, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Division—			
Cristobal	1.71	9	8.58
Brazos Brook	1.45	7	5.02
Gatun	2.86	10	7.18
Bohio	.74	10	3.05
Central Division—			
Tabernilla	2.54	11	4.48
San Pablo	2.70	11	4.21
Gorgona	1.41	2	4.59
Gamboa	1.44	7	4.89
Empire	.55	1	1.96
Camacho	1.17	11	3.99
Culebra	.60	1	2.18
Pacific Division—			
Rio Grande	.93	1	2.75
Pedro Miguel	.93	6	2.05
Balboa	.66	1	.94
Ancon	.48	1	.74
Atlantic Coast—			
Porto Bello	1.21	10	4.83
Nombre de Dios, (Sept. 1 to 4.)	.45	1	.55
Upper Chagres—			
El Vigia	2.35	5	4.41
Alhajuela	1.08	10	3.26

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO COLON.

Advance	P. R. R.	Thursday	Sept. 9
Prinz Aug. Wilhelm	H.-A.	Saturday	Sept. 11
Allianca	P. R. R.	Wednesday	Sept. 15
Ancon	P. R. R.	Thursday	Sept. 16
Oruba	R.-M.	Saturday	Sept. 18
Colon	P. R. R.	Tuesday	Sept. 21
Prinz Joachim	H.-A.	Saturday	Sept. 25
Panama	P. R. R.	Monday	Sept. 27
Cristobal	P. R. R.	Thursday	Sept. 30
Magdalena	R.-M.	Saturday	Oct. 2
Advance	P. R. R.	Saturday	Oct. 2
Allianca	P. R. R.	Friday	Oct. 8
Colon	P. R. R.	Thursday	Oct. 14
Ancon	P. R. R.	Friday	Oct. 15
Clyde	R.-M.	Saturday	Oct. 16
Panama	P. R. R.	Wednesday	Oct. 20
Advance	P. R. R.	Tuesday	Oct. 26
Thames	R.-M.	Saturday	Oct. 30
Atrato	R.-M.	Saturday	Nov. 13
Tagus	R.-M.	Saturday	Nov. 27
Oruba	R.-M.	Saturday	Dec. 11
Magdalena	R.-M.	Saturday	Dec. 25

Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

COLON TO NEW YORK.

Panama	P. R. R.	Wednesday	Sept. 15
Cristobal	P. R. R.	Thursday	Sept. 16
Advance	P. R. R.	Tuesday	Sept. 21
Magdalena	R.-M.	Wednesday	Sept. 22
Allianca	P. R. R.	Monday	Sept. 27
Prinz Aug. Wilhelm	H.-A.	Tuesday	Sept. 28
Ancon	P. R. R.	Thursday	Sept. 30
Colon	P. R. R.	Saturday	Oct. 2
Clyde	R.-M.	Wednesday	Oct. 6
Panama	P. R. R.	Friday	Oct. 8
Advance	P. R. R.	Thursday	Oct. 14
Cristobal	P. R. R.	Friday	Oct. 15
Allianca	P. R. R.	Wednesday	Oct. 20
Thames	R.-M.	Wednesday	Oct. 20
Colon	P. R. R.	Tuesday	Oct. 26
Ancon	P. R. R.	Thursday	Oct. 28
Panama	P. R. R.	Monday	Nov. 1
Advance	P. R. R.	Saturday	Nov. 6

NEW ORLEANS TO COLON.

Atenas	U.F.C.	Saturday	Sept. 11
Turrialba	U.F.C.	Saturday	Sept. 18
Abangarez	U.F.C.	Saturday	Sept. 25

COLON TO NEW ORLEANS.

Atenas	U.F.C.	Tuesday	Sept. 21
Turrialba	U.F.C.	Tuesday	Sept. 28
Abangarez	U.F.C.	Saturday	Oct. 5

COLON TO BARBADOS, CALLING AT TRINIDAD.

Oruba	R.-M.	Tuesday	Sept. 28

Sailings of the French line (Cie. Générale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Tampican* for New Orleans, via Kingston, Ja., on or about October 2.

The steamers *David* of the National Navigation Company, and the *Taboga* of the Pacific Steam Navigation Company, leave Panama, for David, province of Chiriqui, and intermediate points, the first and third weeks of each month.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., September 15, 1909.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Anderson, Edward D.
Aubery, Melville C.
Baumgart, J. P.
Begley, D.
Cody, Mrs. James
Cutler, Ralph
Durning, Will
Farren, Thomas (2)
Ferguson, Miss Fannie
Gasparini, Charles
Griscom, J. T.
James, M. T.
King, A. B.
Leslie, Mrs. T.
Nixen, Mrs. Julia
Nugent, Dennis.
Patheier, John A.
Porter, Edward
Purcell, P.
Roche, P. E.
Sherman, Mrs. Edward C.
Smith, H. G.
Snyder, William
Swankert, William.
Toberer, Master Carl
Van der Leith, T. R.
Walter, Leo F.
Weitz, Cap. Wm. H.
Whitaker, S. W.
Williams, J. W.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, SEPTEMBER 22, 1909. No. 4.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Chairman's Monthly Report.

The report of the Chairman of the Isthmian Canal Commission for the month of August is published in full in other columns of this issue of THE CANAL RECORD. It gives a detailed account of the progress of Canal work in all departments and divisions.

Ancon-Balboa Water Extension.

The laying of pipe on the new Ancon-Balboa water service extension was completed on September 15, and the entire work will be finished within another week. This system, which was begun on July 15, 1909, will not only furnish additional water facilities, but through connection with the high pressure reservoir on Ancon Hill, will give adequate fire protection to Commission property at Ancon, Balboa and East Balboa.

Transfer of Empire Shops to Central Division.

The transfer of Empire shops from the Mechanical Division to the Central Division, as provided for in the official circular published elsewhere in this issue, contemplates placing all the steam-shovel repair work under one organization. Out of the 101 steam shovels on Canal excavation, 61 are in use in the Central Division. Field repair shops are maintained by the Central Division at Cucaracha or Rio Grande, Cunette near Empire, and Bas Obispo. The Cunette shops will be combined with the Empire shops, but no change will be made in the shops at Bas Obispo and Cucaracha. The repairing of steel cars, hostling of locomotives, and the operation of the air compressors and electric light plants in the Empire district will be placed under the master mechanic of Gorgona shops. A portion of the drafting force in the Culebra office of the Superintendent of Motive Power and Machinery will be transferred to Gorgona.

The average number of employes at Empire shops in the fiscal year 1909 was 996 and the average monthly pay roll was $67,173.16. The principal items of work accomplished were: Steam shovels repaired, 52; locomotives—extensive repairs, 28; running repairs, 18,210; engines hostled, 44,664; cars repaired, 81,156; work equipment repaired, 432. The steam shovel repairs referred to were extensive repairs and were made at a cost of $197,612.42. The cost per unit per annum was $1,976.12, and the cost per unit per repair was $3,800.24. The cost of shop repairs to steam shovels per cubic yards of excavation was $0.0875 for the year, the basis of this cost being the amount of steam shovel excavation, 22,583,099 cubic yards in the fiscal year.

Mess Hall at Balboa.

A mess hall will be opened this week in house No. 25, Balboa, nearly opposite the shipways. This was formerly a French building, but was converted into a mess hall by the Commission, and operated as such until the completion of the new hotel at East Balboa, when it was abandoned and has not been used since. Owing to the distance some of the employes at the shipways and machine shop have to go to get their meals at the East Balboa hotel, which has proved especially inconvenient at the noon hour, it was decided to reopen the mess hall.

Keeping Culebra Cut Dry.

After a month's test the pumping plant recently installed in Culebra Cut at Bas Obispo has demonstrated its effectiveness in handling the water that accumulates in the Cut during the heavy showers of the rainy season. The water that flows toward the Cut from the north and south sides of the old Obispo and Camacho watersheds is caught in diversion canals, but that which falls into the Cut itself and flows down its sides is handled by pumping. The rainfall at Empire in August was 7.20 inches and at Bas Obispo 7.03 inches. During August, dams were built across the old channel of the Obispo, where it crossed the Cut at Haut Obispo and at the end of the tunnel at Bas Obispo, with red clay brought from Gorgona, because of its superior quality for dams. These dams keep the water in the Camacho diversion canal from backing up into the Cut, but they also shut off two outlets for surplus water from the Cut. In short, the pumping plant at Bas Obispo is now handling all the water that accumulates in Culebra Cut between the dike at the Chagres River and the summit near Empire, a distance of 4½ miles. The capacity of the pumping plant is 15,000 gallons a minute, and up to the present time not over 3,000 gallons a minute have been pumped. One pump did this work satisfactorily.

As the work advances the summit of the Cut will be placed at Whitehouse, a point between Empire and Las Cascadas, about two miles south of the Chagres River. The drainage ditch being constructed through the center of the Cut will carry the water to a sump near the pumping plant, where it will be forced over the dike into the river. The plant consists of three horizontal duplex pumps, steam cylinder 16 inches in diameter, water cylinder 22 inches, and stroke 18 inches. An auxiliary boiler plant located near the pumping plant furnishes steam at present, but the purpose is to run the pumps by compressed air as soon as the air compressors on order are installed.

Dynamite.

The first shipment of dynamite under the new contract was received at Cristobal on the *Vizcaina* from Baltimore on September 3, the amount being 1,017,000 pounds. The explosive was unloaded in 17 hours, and was delivered at the storage magazines within a day after the unloading. The next shipment consists of 766,000 pounds and is due about September 28.

Improvements at Porto Bello.

The installation of the electric light and telephone equipment at Porto Bello is practically completed, and the service is about equal to that maintained in the settlements of the Canal Zone. The power plant occupies a part of the engine house containing the main driving machinery for the rock crushers, and consists of two 75 k. w. 125-volt direct current General Electric generators, direct connected to two Ames tandem compound engines, with the necessary switchboards, etc. Each generator will carry a load equivalent to 1,200 incandescent lights of 32 c. p., but only one machine is operated steadily, the other, which was recently installed, being held in reserve. Day and night service is furnished, and current is also supplied to operate two 15 h. p. dynamos which drive the machinery in the machine shop.

There were 435 incandescent and twenty 5-ampere arc lights in use on September 15. Thirty 32 c. p. incandescent lights are used in outside lighting, and of the arcs, nine are used outside, and 11 distributed among the buildings of the rock crushing plant. The incandescents are attached by gooseneck fixtures to poles and buildings along the sidewalks, while the arc lamps are used in the more open spaces.

A transmission line to the wireless station was completed in August, and an electric line, with five stations, for firing blasts has been installed in the quarry.

Telephone service is supplied from a central exchange located in the Superintendent's office. The apparatus consists of a Sumter, S. C., magneto switchboard, equipped for fifty drops. Instruments of the Sumter, and National Electric Supply Company makes are used, and twenty stations so far have been installed, all on private lines. The telephone circuits extend from the dynamite

NOTES OF PROGRESS.

(Continued.)

magazine at one end of Porto Bello to the wireless station on the hill at the other, every part of the settlement being reached. The system was installed by the Atlantic Division forces, and has no connection with the Panama railroad telephone lines.

Work on the new wireless station is at a standstill, due to delay in receiving material. The station house is finished, but no further progress can be made until the remainder of the apparatus has been received.

A new dock, which will afford better facilities for the unloading of supplies from tugs, is under construction. It extends east of the coal bin to a point not far from the present steamer landing, and will be 610 feet long by 18 feet wide. The dock is built on piling on the seaward side, while on the landward side the pier supports rest on concrete bases. Waste material from the quarry site is being hauled to fill in between the shore and the dock. Along the face of the dock opposite the machine shop will be located an air line for operating air tools, in making repairs to floating equipment. A storehouse for materials, 40 by 75 feet in size, will be erected at one end of the dock, directly east of the coal bin, and will take the place of the small building now used for a storehouse by the Atlantic Division. The new location will save transportation and be convenient of access.

Landscape gardening was begun last week under the direction of the District Quartermaster, when a consignment of plants were received from the Commission garden and set out in front of the bachelor quarters in house No. 11. A quantity of grass seed has been requested for the slopes of the hill upon which the married quarters are located.

There were eight applications for married quarters at Porto Bello on September 15 that could not be acted upon, but in the bachelor quarters there are some unoccupied rooms. The jurisdiction of the District Quartermaster extends to Nombre de Dios, and the August statement of the Chief Quartermaster shows that there were at these two places a total of 696 employes, 15 married and 106 single employes on the gold roll, 412 West Indians, and 163 Europeans. There are no married quarters at Nombre de Dios, and two or three of the employes at that point, with families on the Isthmus, were provided with quarters at Porto Bello. There were ten white children at Porto Bello in August.

Gatun Locks.

Between August 24, when the work of laying concrete in Gatun Locks with the permanent plant was begun, and the close of work on September 18, 7,066 cubic yards of concrete had been laid. The amount placed is increasing with the increase in the efficiency of the handling and mixing plants. The best record up to September 18 was made on that day, when 638 cubic yards were laid. Concrete is being laid at present in the 20-foot floor of the forebay, in the center of the upper lock chamber, and in the floor of the east chamber of the upper lock. One hundred and sixty feet of the lateral culverts, with the floor wells, have been built, and the forms have been pulled without difficulty.

All three units in the power house are in working condition. The changes in the automatic electric cars, which carry materials to the mixers, are continuing. Although the chief change made is merely to reinforce the I-beam on which the motors are mounted, in order to do away with the wobbling of the motors, it involves taking the car apart and the work therefore will probably take two weeks or more. The dozen cars that have already been changed are giving satisfactory service. In the cableway plant the electrically controlled air brake by which the speed of hoisting and lowering the buckets is regulated is being changed to hand control.

Wooden forms for the connections between the lateral culverts and the main culverts are being made at the wood shop at Gatun. These forms will be in the shape of an elbow, elliptical at the end which connects with the lateral culverts and circular at the top where the connection with the balance valves of the main tunnels is made. The diameters of the ellipse will be eight feet and six and one-half feet, respectively; the form will be 25 feet long, and will weigh between 7,000 and 8,000 pounds. In each pair of locks there will be 25 of these connections between the lateral culverts and the tunnel in the center wall, and 25 between the lateral culverts and the tunnels in the side walls, and 150 forms will therefore be required.

Visiting Congressmen.

Reservations have been made on the Panama Railroad Company's steamship, scheduled to leave New York the first week in November, for the members of the Committee on Appropriations of the House of Representatives. It is probable that the members will be accompanied by a number of friends. The committee will hold several sessions on the Isthmus, during which the Canal estimates for 1911 will be considered. The return will be made in time for the opening of Congress on December 6.

Special Trains for I. C. C. Employes.

COLON, September 20, 1909.

LIEUT.-COL. H. F. HODGES,
Acting Chairman and Chief Engineer, Culebra.

Dear Sir—It is the desire of the management of the Panama railroad to afford the employes of the Isthmian Canal Commission any and every opportunity to run special trains, which may have the endorsement of their superior officer.

There seems to be somewhat of a misunderstanding as to the proper method to pursue to obtain permission for I. C. C. employes to run special trains, with I. C. C. equipment, over the Panama railroad main line.

Rules and regulations, approved by the Chairman and Chief Engineer, have been in effect for about a year covering this question, and are as follows:

> Permission will not be granted to run trains on Panama railroad main line, unless requested through and by the Chief Engineer's or the Division Engineer's office—employes desiring such service must make their requests on their superior officers and not on the management of the Panama Railroad Company.
>
> Trains whose limits fall within the district of any Division Engineer will be authorized on the request of that Division Engineer's office.
>
> Trains whose limits exceed the district of any one Division Engineer will be authorized on the request of the Chairman's office.
>
> In all cases, qualified crews must be used and trains equipped with flags, markers, torpedoes, fusees, etc.

Yours truly,
H. J SLIFER, *General Manager.*

PORTO BELLO WAGON ROAD.

Construction of a Highway from Colon Begun by the Panamanian Government.

The construction of a wagon road from Colon to Porto Bello by way of Mount Hope has been undertaken by the Panamanian Government, and work at the Porto Bello end was begun a few days ago. Following the survey, the road, when completed will be about 30 miles in length, and in no part of it must the grade exceed seven per cent. Work for the present will be confined to clearing out the jungle growth and bringing the road to grade, so that carts can pass over it. Later, the road will probably be given a dressing of coarse stone to prevent washouts during the period of heavy rains. Convict labor is employed, and the prisoners are now housed in a temporary stockade at old Porto Bello. It is proposed to erect a prison building at that point as soon as arrangements can be made.

The road is divided into seven sections, as follows: Colon to Mount Hope; Mount Hope to Majagual; Majagual to Cativa; Cativa to Santa Rita; Santa Rita to Llano Sucio; Llano Sucio to Maria Chiquita; Maria Chiquita to Punta Gorda and Porto Bello.

From Colon to Mount Hope the present road, built by municipal engineering forces of the Commission, will be utilized. From Mount Hope the road will extend due east to Majagual, and nearly all of this section will be within the limits of the Canal Zone. From Majagual the road will traverse low ground to Cativa, and from Cativa to Llano Sucio it will skirt a coast indentation called Bahia Muerto. There is a level stretch between Llano Sucio and Maria Chiquita, from where an old road formerly extended to Porto Bello, following the playa, or beach. As this old route crosses several rivers at their widest extent, it was determined to build the new road in a more easterly direction, about two miles from the coast. It will skirt the hill known as El Giro, cross the Rio Piedra at a point where the stream is very narrow, and then turn a little to the south until a valley formed by the Guanche and Sierra Llorena is entered. From there the road will run nearly level along the side of a hill until the Rio Guanche is reached. It will then skirt a hill called Pan de Azucar to the Rio Buenaventura, and thence will encircle the base of a hill known as Las Trincheras for four miles when it will meet the old royal road to Cruces, about a mile and a half from old Porto Bello. The royal road will be followed for the remainder of the distance.

In the construction of this road three rivers will be bridged, and a great many culverts put in. The longest bridge span will be approximately 300 feet, and will be over the Rio Guanche.

Woodmen.

All Modern Woodmen of America on the Isthmus are requested to communicate with me. JOHN E. WESTBURG.

Empire, C. Z., September 10, 1909.

Mr. H. L. Schultz, the horticulturist of the Commission, has been directed by the Acting Chairman to report to the Chief Engineer of the Republic of Panama for service on an investigation of the resources of the province of Chiriqui.

CANAL ZONE SCHOOLS.

Change in Course and Equipment—Teaching Force.

Work in the Canal Zone public schools will be resumed on October 1, when a meeting of the teachers will be held at the Superintendent's office, Ancon. Teachers in the schools for white children will meet in the morning at 8.30 o'clock, and the teachers in the schools for colored children will meet at 10.30 o'clock. On October 4 at 8 o'clock in the morning the regular sessions will begin.

Schools for white children will be conducted at the 12 stations along the line of the Canal where they were conducted last year. A high school course will be added at Gatun, although the work will not be so extensive as in the other villages, where high school courses are offered, namely Culebra and Cristobal. One of the four rooms in the new building at Gatun will be used for this purpose.

Two rooms have been added to the Cristobal school building, and two to the school building at Gorgona. High school pupils living in Empire will go to Culebra, and brake service will be provided to convey them back and forth. Children living in Balboa will be brought to the Ancon school by brake.

In the schools for white children there will be 36 teachers, including two itinerant teachers of Spanish and two substitute teachers. It will be the duty of the substitute teachers to take vacant places in schools throughout the Zone, and when not so engaged to assist backward pupils by giving individual instruction. In the work of improving the methods of instruction as carried on last year a card catalogue was made in the office of the Superintendent of Schools in Ancon in which the progress of each pupil is registered from month to month. By consulting the catalogue the office can send the substitute teachers where their services are most needed. The substitute teachers will also take the places of teachers on the regular force who are sent to other schools to observe methods of instruction. A supervisor of grammar and high school work has been added to the directing force.

Subject to change throughout the year the following assignments of teachers have been made for the schools for white children:

Ancon—Miss Georgia E. Munroe, lower grades; Miss Jessie S. Wilson, intermediate grades; Miss Catharine Bailey, upper grades, principal.

Corozal—Miss Elizabeth E. Shimer; Miss Margaret E. Kyte.

Pedro Miguel—Mrs. W. E. Maxon.

Paraiso—Miss Gertrude Hanson.

Culebra—Miss Annie S. Irvin, lower grades; Miss Ida Keys, next higher grades; Miss Lena Tozier; Mrs. Mamie Miracle, principal.

Empire—Miss Jessie J. Heller, lower grades, principal; Miss Grace Yarborough, next higher grades; Miss Gertrude L. Bliss, next higher grades; Miss Dorothy Doyle, upper grades.

Las Cascadas—Miss Mary M. Shea, upper grades, principal; Miss Grace E. McCray, lower grades.

Gorgona—Miss M. Edith Anderson, upper grades; Miss Florence O'Connor, next lower grades, principal; Miss Elise Cage, next lower grades; Miss Stella Morrow, primary grades.

Tabernilla—Mrs. Fay C. Berry.

Gatun—Mrs. Alice P. Schreiber, upper grades; Miss A. Elise Stone, intermediate grades; Miss Lola M. Taylor, primary grades.

Cristobal—Mr. Charles Carl Carr, principal, high school; Miss Bessie Annis, upper grades, high school; Miss Alice Leone Coombs, upper grades; Miss Regina Kingman, next lower grades; Miss Natalie Hine, lower grades.

Colon Beach—Miss Edith L. Slifer, higher grades, principal; Miss Edna Hart, primary grades.

Spanish Teachers—Miss Odina J. L. Frost, Cristobal and Gatun; Mrs. Cornelia H. Ellsworth, Ancon and Culebra.

Substitute Teachers—Miss Jessie E. Daniels, Miss Evelyn Eldredge.

There will be 17 schools and at least 21 teachers for colored children at various settlements along the line of the Canal. A new four-room building at New Culebra, in process of construction, will be ready for occupancy. At New Gatun a four-room building has been erected. There is plenty of room around this building in which to carry on experiments in school gardening, and much work of this character can be done without extra cost. At Pleya de Flor, near Colon, a boatman will be provided as heretofore to transport the pupils who live along the Sweetwater River. The assignment of teachers in the schools for colored children will not be made until after the examination of teachers held on September 17 has been completed.

Pay for Holiday Work.

THE CANAL RECORD:

Would you kindly answer this in THE CANAL RECORD? Will an hourly man get twenty hours or twelve hours for working on a holiday? This information is for the benefit of a few who do not understand the circular that was in THE CANAL RECORD some time ago.
JOHN H. PRICE.

Gatun, C. Z., September 4, 1909.

[All hourly employes on the gold roll, and all citizens of the United States on the silver roll, who work both the day preceding and the day following a holiday, will be paid eight hours' regular pay, and in addition thereto, time and a half for all time worked on a holiday. For instance, if such a man works eight hours on a holiday, he will receive pay for twenty hours' time; if he works four hours on a holiday he will receive pay for fourteen hours' time. All aliens on the hourly silver roll will receive only time and a half for all time worked on a holiday.]

Resignation While on Leave.

THE CANAL RECORD:

Is the resignation of an employe on leave in the States allowed the extra fifteen days to reach the Isthmus before leave pay is forfeited, same as an employe returning to work?
EMPLOYE.

Cristobal, C. Z., September 3, 1909.

[If an employe desires to resign in the United States, upon expiration of his leave of absence, his resignation must be received on the Isthmus by the head of his department, within fifteen days after the expiration of his leave of absence. It is desired, however, whenever possible, that an employe notify the head of his department of his intention to resign before entering upon his leave of absence.]

Navel Orange Tree.

THE CANAL RECORD:

In THE CANAL RECORD of September 1 I notice an article referring to a navel orange tree at the Ancon nursery as being the only one known to exist in the Canal Zone.

I hope you will pardon me for calling your attention to the fact that I brought a dozen of these trees to the Isthmus about three and a half years ago, and presented two of them to the President of Panama, two to the Chairman of the Canal Commission, and two to the Ancon Hospital. Three of them were planted at the pumping station of the Union Oil Company at Mount Hope and are flourishing; the remaining three were planted at the pumping station at Petrolia. One of these latter died, but the other two are growing nicely, one having borne a half dozen oranges.
R. W. FENN.

Balboa, C. Z., September 2, 1909.

Revenue Operations in August.

The total revenue receipts in the Canal Zone during the month of August amounted to $8,925.41, derived from the following sources: Distillation licenses, $349.25; escheated estates, $478.98; taxes, licenses, etc., turned in by tax collectors, $8,097.18.

Distillation licenses are usually granted for a period of 15 days, although they may be taken out for any period from 15 days up to a year. The distilleries in the Canal Zone do not operate continuously. The proprietors usually make all their arrangements for the distilling process, such as preparing the mash, and then take out a license for the time it is estimated to require. Occasionally it happens that the period covered by the 15-day license is too short, in which case, a license is generally granted to the applicant for the additional time needed to use up his mash. The license is based on the litre of manufactured product. In the month of July, the greater part of the revenue from this source came from a simple still in operation at Ancon.

The sum credited to escheated estates is derived from the Commission employes and other Canal Zone residents, who have died intestate, or whose heirs cannot be located. Under the Zone law, proved heirs may appear at any time within a period of 10 years and çollect the amount derived from an escheated estate. The August collections under taxes, licenses, etc., consist of back taxes, with penalties and miscellaneous licenses.

Married Men Won at Baseball.

A team composed of married men of Gorgona defeated a team of unmarried men in that village Sunday, September 19. The score was:

Single Men..............	1	0	0	3	0	2	1	1	0—8
Married Men.............	2	0	3	0	0	0	0	1	3—9

Batteries: Single Men—Sprecken, Lasker and Kenney. Married Men—Sexton, Case and Barney. Umpire—Cramer.

Baptist Church of Empire.

First Baptist Church of Empire, C. Z., will hold services in the I. C. C. Chapel next Sunday, 26th instant, 3 p. m., as is customary every fourth Sunday at same hour. The ordinance of baptism will be administered at this service.

Concert by I. C. C. Band.

AT GORGONA, C. Z.

Sunday, September 26, 1909, at 6 p. m.

PROGRAM.

1 March—*U. S. Cadet*............Hale
2 Selection—*Mary's Lamb*............Carle
3 { *a*—*S. R. Henry's Barn Dance*............Henry
  { *b* Two Step—*Dixie Twilight*............Johnson
4 Waltz—*Gaite*............Waldieufel
5 Medley Selection—*The Glittering Glow Worm*............La Farge
6 { *a* Bolero—*Isolina*............Labory
  { *b* Rag—*Hoop-e-Kack*............Allen
7 Idyl—*The Forge in the Forest*............Eilenberg
8 Overture—*Poet and Peasant*............Suppe
9 Ballet—*Flight of the Birds*............Rice
10 March—*The Aviator*............Fulton

CHAS. E. JENNINGS, *Musical Director*.

The next concert will be given at Hotel Tivoli, Sunday, October 3.

Ships to Boquete.

The steamer *Taboga* of the Pacific Steam Navigation Company is scheduled to sail from Panama for Pedregal (David) on September 29, October 13 and October 27.

CANAL WORK IN AUGUST.

Monthly Report of the Acting Chairman to the Secretary of War.

CULEBRA, C. Z., September 15, 1909.

The Honorable the Secretary of War,
Washington, D. C.

Sir—I have the honor to submit the following report of the operations on the Isthmus for the month of August, 1909.

The following table summarizes the principal items of construction work accomplished by the Atlantic, Central, and Pacific Divisions during the month:

Item.	Unit.	Atlantic.	Central.	Pacific.	Total.
Work excavation, dry	Cubic yards	106,595	1,404,913	93,471	1,604,979
Work excavation, wet	Cubic yards	422,846	....	675,010	1,097,856
Total work excavation	Cubic yards	529,441	1,404,913	768,481	2,702,835
Plant excavation, dry	Cubic yards	1,118	....	51,225	52,343
Plant excavation, wet	Cubic yards	....	....	....	....
Total plant excavation	Cubic yards	1,118	....	51,225	52,343
Total Canal excavation	Cubic yards	530,559	1,404,913	819,706	2,755,178
Explosives used	Tons (2240 lbs)	41.40	297.90	24.61	363.91
Rock drilling	Feet	77,229.60	357,588	81,282	516,099.60
Track removed	Miles	....	8.80	....	8.80
New track laid	Miles	3.29	13.50	3.81	20.60
Material placed in dams	Cubic yards	396,388	....	75,144	471,532
Rock crushed	Cubic yards	11,430	8,545	3,274	23,249
Cement used	Barrels	8,619	....	1,001	9,620
Concrete placed	Cubic yards	7,195	....	847	8,042
New roads built	Miles	....	2.60	....	2.60
Water mains laid	Feet	13,340	777	9,133	23,250
Sewers laid	Feet	437	669	523	1,629
New drains and ditches dug	Feet	150	2,586	220	2,956
Average daily force	....	5,687	9,388	4,207	19,282
Raiufall, average	Inches	11.83	7.20	8.53	9.27

Atlantic Division.

GATUN LOCKS.

Excavation—Excavation was continued during the month, 39,160 cubic yards of material being removed by two steam shovels and 1,186 cubic yards of material by crane.

Receiving and Issuing Material—The following table shows the amounts of materials received and issued during the month:

MATERIALS.	RECEIVED.		ISSUED.	
	Barrels.	Cu. Yds.	Barrels.	Cu. Yds.
Cement	43,448	....	2,462	....
Sand	....	2,304	....	1,304
Stone	....	7,664	....	2,728

Masonry Work—Concreting was commenced on August 24, and at the end of the month 1,298 cubic yards had been laid; 124,000 feet, board measure, of forms were erected; 4 tons of steel culvert forms were put in place and 44 sections assembled, ready to place; 350 feet of 4-inch tile drains were laid in telltale system in the lock-floor plan.

New Power Plant—During the month power was supplied to all apparatus from the new power plant. The steam connections to two generators were completed and a temporary connection made for the third generator.

Automatic Railroad—The operation of the automatic railroad during the month was unsatisfactory, due to the poor design and poor workmanship of the cars.

Cement Shed—All the cranes in the cement shed became disabled during the month, due to the poor workmanship, poor design, and poor material.

Miscellaneous Work—The east storage tunnel was reinforced during the month, and 75 per cent of the west tunnel reinforced. Two transformer houses were built. Pile driving for strengthening the tracks for the head towers of the unloading cableways was 40 per cent completed.

GATUN DAM.

Construction during the month increased the total fill by 379,538 cubic yards, making the total at the end of the month 3,865,283 cubic yards.

Stripping—The stripping of the east valley was extended during the month up both hillsides, the work being performed by loading Decauville cars by hand and dumping the material just outside of the limits of the stripped area. The work extended the stripped and grubbed area by 1.7 acres. The total area stripped and grubbed at the end of the month was 197.4 acres.

Hydraulic Fill—The hydraulic fill in the dam was increased by 213,578 cubic yards, making the total at the end of the month 1,244,590 cubic yards.

Enrockments—The material received from Bas Obispo, Buena Vista, the Locks, Mindi, and the spillway, amounting to 165,960 cubic yards, was placed on the north and south toes of the dam. The total dry fill at the close of the month was 2,611,694 cubic yards.

Trestles—The trestle to the site of the cut-off dam to the foot of the West Diversion was extended 372 linear feet, the total length at the end of the month being 515 feet. In connection with the construction of the new incline into the head of the spillway, a trestle 140 feet long was constructed. A new trestle was started across the head of the spillway at dam contour +30, and was continued for 35 linear feet. Work was continued on the trestle at the site of the new water works, the same being extended for a length of 238 feet.

GATUN SPILLWAY.

Excavation was limited to clearing ahead of the floor and side walls by hand and with crane No. 44. During the month the material removed amounted to 736 cubic yards, making the total spillway excavation at the close of the month 1,301,016 cubic yards.

Concrete—Work was continued on the east and west walls of the spillway dam, the east and west face walls south of the dam, and the floor south of the dam, and into the curtain trench. The total amount of concrete placed during the month was 5,496 cubic yards, making the total at the end of the month 42,290 cubic yards.

HARBOR AND CHANNEL SECTION.

Dry Excavation Below Sea Level at Mindi—During the month 28,906 cubic yards of earth and 38,461 cubic yards of rock were removed from the prism, and 1,118 cubic yards of earth were excavated outside the prism.

Dredging from the Ocean to Mindi—Four dredges removed from the prism 388,282 cubic yards of earth and 34,564 cubic yards of rock during the month. In addition, the dredge *Caribbean* removed 87,130 cubic yards of earth from the approach channel to Cristobal Harbor, and 9,284 cubic yards of earth from in front of Pier No. 11. Two thousand cubic yards of earth and 43,512 cubic yards of coral and rock were also removed from in front of Pier No. 11 by the dredge *Mindi*. On August 31st, 40 feet of water could be carried from 0 to Mile 2 plus 4,050 feet, 30 feet to Mile 3 plus 1,375 feet, 20 feet to Mile 4 plus 4,975 feet, and 10 feet to Mile 4 plus 5,000 feet, the end of the cut.

PORTO BELLO.

General miscellaneous mechanical and repair work was continued during the month. Eighteen thousand five hundred and seventy-eight cubic yards of rock were loaded into cars for crushers and fills, and 15,200 cubic yards of earth were removed hydraulically from the quarry. Including material cast over and removed by hand, to strip rock and in track work, the total yardage for the month was about 42,888 cubic yards.

NOMBRE DE DIOS.

The work of opening the channel to the sand zone was continued.

MUNICIPAL ENGINEERING AND BUILDING CONSTRUCTION.

The usual work was performed during this month, including work on the Mount Hope-Gatun road, and the new water supply for Gatun.

Central Division.

During the month of August, the total amount of material excavated in the Central Division was 1,404,913 cubic yards, of which 361,558 cubic yards were classified as earth, and 1,043,355 cubic yards as rock.

Of this quantity, 1,376,386 cubic yards were removed by steam shovels, 24,499 cubic yards by hand, and 4,028 by sluicing fill in the Obispo Diversion.

The quantity of material removed from the Canal prism was 1,400,885 cubic yards, while 4,028 cubic yards were sluiced at the Obispo Diversion.

The daily average number of steam shovels at work during the month was 46.73, as compared with 45.08 for the month of July.

For comparison with the work done by steam shovels during the corresponding month of the previous year, the following table has been prepared:

Period.	Excavated by shovels.	Classification of material.		Ave. No. of shovels at work.	W'kg days.	Ave. yards per shovel day.
		Rock.	Earth.			
1908:	*cu. yds.*	*cu. yds.*	*cu. yds.*			*cu yds*
August	1,534,498	1,004,345	530,153	52.58	26	1,123
1909:						
August	1,376,386	1,035,515	340,871	46.73	26	1,133

Raiufall at Empire: 1908, 8.11 ins.: 1909, 7.20 ins.

The above table shows that the average output per shovel day was almost nine per cent greater in August, 1909, than in the corresponding month of the previous year.

During the month 191,566 cubic yards of material excavated from the prism were transported to the relocation of the Panama railroad at Caimito, Santa Cruz and Corozal, and dumped as filling in the embankment for the new roadbed, the total at the close of the month for this purpose being 1,687,353 cubic yards.

During the month 13,540 cubic yards of earth from Buena Vista, and 41,495 cubic yards of rock from Bas Obispo were transported to Gatun for use in the construction of the dam. At the close of the month 55,700 cubic yards of earth and 486,013 cubic yards of rock had been transported for this purpose.

The daily average number of laborers at work was 8,460, while the average number of gold men working was 928.

Pacific Division.

DISTRICT NO. 1—LOCKS AND DAMS.

The total excavation during the month amounted to 196,443 cubic yards.

During August 2,885 cubic yards of material were added to the prism of the west dam at Pedro Miguel, making the total at the end of the month 169,946 cubic yards. At Miraflores 23,466 cubic yards of dry filling were added to the toe of the west dam, increasing the total to 417,530 cubic yards. Forty-eight thousand seven hundred and ninety-three cubic yards of hydraulic filling were added to the core of the west dam, increasing the total to 81,140 cubic yards, and 6,000 cubic yards of material were placed in back fill, increasing the total to 12,250 cubic yards.

At Pedro Miguel the regular operations were continued. The storage trestles were practically completed, the west trestle being put in service. The auxiliary mixer in the west chamber was placed in position, to be ready for operation early in September. A portion of the foundation for the lower guide wall was prepared for the beginning of the placing of concrete on September 1.

At Miraflores the installation of one unit at the power house was practically completed.

During the month the four No. 6 crushers were placed in position at Ancon quarry, and all work in connection with the crusher plant was satisfactorily continued.

DISTRICT NO. 2—DREDGING.

Five dredges were in operation during the month, the amount of material excavated by each being shown in the following table:

DREDGE.	TYPE.	CUBIC YARDS.	
		Work.	Plant.
Culebra	Suction	151,870	....
Mole	Ladder	106,523	....
Badger	Ladder	142,241	....
Cardenas	Dipper	71,862	3,600
Marmot	Ladder	150,767	....
Total		623,263	3,600

The necessary work in connection with maintenance of equipment was satisfactorily performed.

DISTRICT NO. 3—MUNICIPAL AND BUILDING WORK.

Building and municipal work was continued during the month, and the filtration plant, Ancon steam plant, and the Rio Grande rock crusher were successfully operated.

Mechanical Division.

The usual work of this division was satisfactorily performed during the month.

Relocation Panama Railroad.

During the month 200,474 cubic yards of material were excavated, making the total excavation at the close of the month 1,770,073 cubic yards, and 669,370 cubic yards of material were placed in embankment, making the total for this purpose at the end of the month 5,600,601 cubic yards.

During the month 1,881 linear feet of temporary trestle were driven, and numerous small culverts were completed.

During the month 6,569 linear feet of permanent track were laid, making the total at the close of the month 120,140 linear feet.

The force of laborers during the month averaged 2,246 men.

Quartermaster's Department.

During the month there were 213 additions to the gold force and 214 separations.

In the report for May, 1909, attention was called to the fact that the combined force actually at work for the Commission and Panama Railroad Company on April 28, 1909, was the largest up to that date in the history of Canal construction, under either American or French administration, the number of men actually at work being 33,369, the force of the Commission alone being 26,835. These figures were exceeded on July 28, when the force of the Commission was 26,938, and of the Panama railroad and commissary 6,963, making a total of 33,901, while the combined force at work on August 25, about one month later, was less by only 159 men.

Conditions relating to building repair work are such at the present time that it is not economical to maintain at each station a force sufficiently large to handle all work that may have to be performed, as such a maximum force could not be advantageously employed continuously. This condition has been met by maintaining at each station a force capable of performing all ordinary routine work, and by the organization of two "traveling gangs"—one each of carpenters and painters. The carpentry gang is composed of one gold foreman and twenty silver men, and the painting gang of one gold foreman and nineteen silver men. These gangs are shifted from station to station as may be necessary to perform an accumulation of work, or any extraordinary work, that cannot be cared for by the regular force.

The form of contract for building construction was changed, and a more rigid inspection of contract buildings is being enforced.

Subsistence Department.

The operations of the Hotel Tivoli, during the month, showed a loss of $2,396.83. There was a loss of $2,988 45 on the operation of the line hotels, and a profit was made on the operation of the kitchens and mess halls. The operations of this department for the month showed a net loss of $2,176.77.

Department of Civil Administration.

COURTS.

The Supreme Court held one session in August. No cases were disposed of. In the Circuit Courts 23 civil and 43 criminal cases were disposed of, and in the District Courts 85 civil and 526 criminal cases were disposed of.

DIVISION OF POSTS, CUSTOMS AND REVENUES.

The revenues in August aggregated $17,437.85. The general revenues amounted to $12,092.43. Postal revenues were $5,944, on account of stamp sales; $14.51, on account of newspaper postage; and $1,764.51, on account of money order fees. Money order sales during the month amounted to $409,481.22, of which $309,568.07 were payable in the United States and foreign countries, and $99,913.15 in the Canal Zone.

Eighteen vessels entered at and 15 cleared from the port of Ancon, and 17 vessels entered at and 19 cleared from the port of Cristobal.

DIVISION OF POLICE AND PRISONS.

The number of arrests during the month was 535, as compared with 529 in July.

The total effective strength of the police force on August 31, was 164 officers and men, and the total force of the division on that date aggregated 251 officers and men.

There were 111 prisoners confined in the district jails at the close of the month. Fourteen convicts began penitentiary sentences during the month, 10 were discharged at the expiration of their sentences, and on August 31st, 123 convicts were confined in the penitentiary. The cost of guarding and subsisting the convicts was $2,420.58, and the value of the work performed by them was $2,024.22.

DIVISION OF PUBLIC WORKS.

The regular inspection and maintenance work of this division was performed during the month. In the city of Panama 28,770,000 gallons of water were consumed, and in the city of Colon 20,233,075 gallons were consumed.

DIVISION OF FIRE PROTECTION.

Four alarms of fire were responded to by the Canal Zone Fire Department, although seven fires actually occurred, two of which were of minor importance. The total estimated value of Commission and Panama railroad property involved was $180,000; the damage was $110. The estimated value of private property involved was $8,000, no damage resulting.

DIVISION OF SCHOOLS.

The schools were closed during August.

Department of Sanitation.

The number of laborers on the rolls on August 1 was larger than at any previous time. The following table shows the number of employes carried on the rolls during the month of August for each year since American occupation:

August.	*No.*	*August.*	*No.*
1904	6,029	1907	40,443
1905	19,226	1908	44,225
1906	29,555	1909	49,020

Attention is called to the low death rate of the total population, 16.20 per thousand. The rate for August during previous years was as follows:

August.	*Rate.*	*August.*	*Rate.*
1905	51.05	1908	26.65
1906	64.12	1909	16.20
1907	33.75		

The death rate for the State of Pennsylvania for 1907 was 16.40, for New Jersey 17.10, and for California 18.60.

The death rate among employes was lower than was recorded during any previous August, as evidenced by the following table:

August.	*Rate.*	*August.*	*Rate.*
1904	13.93	1907	27.59
1905	19.97	1908	11.39
1906	62.12	1909	10.28

For special diseases the showing is equally satisfactory. In 1904, for malaria, the admission rate was 138 per thousand; 1905, 489 per thousand; 1906, 1,081 per thousand; 1907, 641 per thousand; 1908, 413 per thousand, and 1909, 222 per thousand.

The typhoid fever rate among employes

during the month was 25 per 100,000. For Pennsylvania, for the year 1906, the rate was 56 per 100,000, and for 1907, 50 per 100,000. For the registration area of the United States at large, the average rate for 1906 was 31 per 100,000, and for 1907, 29 per 100,000. It will, therefore, be seen that among employes in the Canal Zone the typhoid fever rate is less than one-half of that which prevailed in Pennsylvania, and considerably less than the average for the registration area of the United States.

The best measure of the efficiency of a force is its sick rate. This rate for August, 1909, and for previous years was as follows:

August.	*Sick every day.*	*August.*	*Sick every day.*
1905	25	1908	25
1906	42	1909	21
1907	29		

The above table shows that as far as the sick rate is concerned, the force was more efficient during August, 1909, than in any previous August.

No cases of yellow fever or bubonic plague occurred on the Isthmus during the month.

Respectfully,

H. F. Hodges,
Acting Chairman.

Sailings of the Cement Ships.

The *Cristobal*, which arrived at Cristobal on September 9 and departed for New York on September 16, sailed on scheduled time. The *Ancon*, due to leave Cristobal for New York on September 30, was late in leaving New York on its present voyage and therefore will probably be a day or two late in leaving the Isthmus on the return. It is believed, however, that the cement ships will both arrive and depart on time after the next sailing of the *Ancon*. These ships are now unloading at the extension of Dock 11 at Cristobal Point, and although the work is still done by hand and tackle no difficulty is experienced in unloading the cargo within the six days scheduled for that purpose. Better time will be made as soon as the mechanical unloaders are installed.

Sand and Rock for Gatun Locks and Spillway.

Stone was quarried and crushed at Porto Bello and delivered at Gatun and Mindi for Atlantic Division construction up to September 1 in the following amounts:

	Cubic Yards.
At Gatun Spillway	53,738
At Gatun Locks	32,461
At Mindi	14,038
Total	100,237

The rock delivered at Mindi was used in surfacing the highway between Gatun and Mount Hope.

Up to September 1 sand was dredged at Nombre de Dios and delivered in the following amounts:

	Cubic Yards.
At Gatun Spillway	16,356
At Gatun Locks	4,174
At Porto Bello	427
Total	20,957

More dirt has been found in the Nombre de Dios sand than was expected and it will probably be necessary to wash it. By handling it with a hydraulic dredge while excavating and loading it the washing will be accomplished. A 12-inch dredge is on order for this purpose.

An examination of the watershed of Cocoli Lake is in progress by a committee appointed for that purpose. The report will be considered in connection with the project to provide an auxiliary water supply for the territory now served by Rio Grande reservoir.

Dynamite Explosion at Colon.

An explosion of dynamite occurred at about 3 a. m., Sunday, September 19, in a three-story frame building at No. 234 Cash Street, near Fourteenth Street, Colon, injuring six of the colored occupants, five men and one woman, more or less seriously, and doing considerable damage to the house. The Cristobal police in conjunction with the Colon authorities made an investigation of the premises immediately afterwards, and found eight sticks of dynamite of the kind commonly used on the Canal works, which had failed to explode. From the examination it appeared that five charges had been placed at short intervals in a section of the second floor, four of which exploded. The Colon police took charge of the unexploded dynamite and are investigating the occurrence.

Atlantic Division Tug Service.

During the month of August, the tug boat *M. E. Scully*, which was employed nearly the whole time in the Atlantic Division sand and stone service, steamed 1,300 miles, carried 1,100 passengers, and handled 42 tows at sea, beside 19 tows between pier No. 1 and pier No. 13. The tug boat *Porto Bello* steamed 1,030 miles during the month, carried 123 passengers, and handled 20 tows at sea, besides 18 tows between pier No. 1 and pier No. 13. The tug boat *Mariner* was stationed at Nombre de Dios from August 1 to 21, and from the 22d to the 30th was in dry dock undergoing repairs. She steamed a total of 310 miles during August, and handled two tows between pier No. 13, and Nombre de Dios. The tows at sea represent either hauls of sand from Nombre de Dios, or crushed rock from Porto Bello, with the return of barges to those points. The *M. E. Scully*, the most powerful tug boat of the fleet frequently handles as many as three full barges of rock or sand at one time. With a tow of this size it usually takes about four hours to accomplish the distance from Porto Bello. The tug boats running to Porto Bello and Nombre de Dios now leave from Dock 13 only. No stop is made going or returning at Dock 11, as formerly.

Tonnage Dues on Vessels from Panama.

The Presidential proclamations, exempting from the payment of tonnage dues vessels from certain ports in foreign countries, among which are Colon, Panama and Bocas del Toro, have been revoked by President Taft in a proclamation, effective October 5, 1909. After that date tonnage dues will be collected in accordance with Section 36 of the new tariff law, which reads in part as follows:

> That a tonnage duty of two cents per ton, not to exceed in the aggregate ten cents per ton in any one year, is hereby imposed at each entry on all vessels which shall be entered in any port of the United States from any foreign port or place in North America, Central America, the West India Islands, the Bahama Islands, the Bermuda Islands, or the coast of South America bordering on the Caribbean Sea, or Newfoundland, and a duty of six cents per ton, not to exceed thirty cents per ton per annum, is hereby imposed at each entry on all vessels which shall be entered in any port of the United States from any other foreign port, not, however, to include vessels in distress or not engaged in trade.

LARGEST LABOR FORCE SINCE BEGINNING OF WORK.

Nearly 34,000 Employes on the Canal Work on July 28, 1909—Statement of Force and Quarters for August.

In the report of the Chief Quartermaster for May, 1909, attention was called to the fact that the combined force actually at work for the Commission and the Panama Railroad Company on April 28, 1909, was the largest up to that date in the history of Canal construction, under either American or French administration. The number of men actually at work on that day was 33,369, the force of the Commission alone having been 26,835. These figures were exceeded on July 28, when the force of the Commission was 26,938, and of the Panama railroad and commissary 6,963, making a total of 33,901. The combined force at work on August 25, about one month later, was less by only 159.

The report of the Chief Quartermaster for the month of August shows that the number of Isthmian Canal Commission employes actually at work on August 25, was 26,519, of whom 4,070 were "gold" employes, and the remainder were on the "silver" or labor roll. The Panama railroad force was 6,413, and the Panama railroad commissary force numbered 810. Thus the total number of persons at work on the Canal and railroad on the 25th day of August was 33,742. During August 213 people were added to the "gold" roll and there were 214 separations, the net decrease in the force being 1.

The number of family quarters occupied by "gold" employes was 1,454, and the occupants numbered 4,335; bachelor quarters by "gold" employes, 2,039, and the occupants numbered 3,236, of whom 104 were women. The family quarters occupied by West Indians numbered 965, and the occupants 3,299; bachelor quarters, 244; number of occupants, 4,506. The family quarters occupied by European laborers numbered 279, and the occupants 857; bachelor quarters, 126; number of occupants 4,047.

A statement of the force actually at work on August 25, 1909, follows:

Department.	Monthly.	Artisans.					European Laborers.		West Indian Laborers.				Total Silver.	Total Gold.	Grand Total.
		44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	16 cents.	13 cents.	10 cents.	7 cents.			
Const'ct'n and Eng'r'ng	2,792	22	49	339	835	1,990	3,131	499	868	2,676	4,713	314	18,228	3,034	21,262
Civil Administration	155	..	..	2	1	12	......	....	......	......	2	....	172	282	454
Sanitation	590	..	..	4	3	2	......	....	6	......	286	10	901	377	1,278
Quartermaster's	1,031	4	7	44	164	165	315	31	7	4	792	20	2,584	216	2,800
Subsistence	547	..	..	1	2	......	......	....	......	1	......	....	551	57	608
Disbursements	8	..	..	....	.....	......	......	....	......	......	......	....	8	25	33
Examinat'n of Accounts	5	..	..	....	......	......	......	....	......	......	......	....	5	79	84
Totals	5,128	26	56	390	1,005	2,169	3,445	530	881	2,681	5,793	344	22,449	4,070	26,519

Panama railroad force, 6,413: Panama railroad commissary force, 810.

BEWARE OF THE FLY.

Public Warned of This Menace to Health—How to Guard Against It.

The Department of Sanitation has issued in pamphlet form, in English and Spanish, the following warning against the house fly:

This pamphlet has been prepared with the object of calling attention to the filthy habits of house flies, and also to the great danger to the public health when they are permitted to swarm in and about dwellings.

Heretofore we have looked upon the fly as a harmless insect, but after investigating its habits and breeding places we have been obliged to change our ideas. A single fly lays from 120 to 140 eggs at a time, and it is only a matter of from seven to ten days from the egg to the adult fly. The favorite breeding places are in and about stables, manure piles, decaying vegetable and animal matter, and filth of all kinds.

Under the microscope the legs of the fly are seen to be covered with thin bristles, the foot being like a pair of pincers. Should you stick a stiff-bristled brush or broom into a dirt heap you would do just what the fly does when it alights on the refuse pile. When you lift the broom some of the refuse comes with it. When a fly leaves a refuse pile the filth sticks to its feet and legs, and wherever it walks a trail of germs is left behind.

A campaign of extermination against the house fly is being carried on in all civilized countries, for where the fly was once thought to be a scavenger it is now known to be a carrier of disease, and dangerous to the public welfare. Bred in garbage and filth, it drinks from cesspools and eats in pit-closets The fly has been proved time and again to be a germ carrier. It brings typhoid fever, dysentery, tuberculosis, and other diseases into our homes. Coming direct from the filth pile, it alights on the lips of an infant, settles on its nursing bottle, or on exposed food.

The work of controlling malaria and exterminating yellow fever was accomplished by doing away with the breeding places of the mosquito. The same can and should be done with the fly, even though the work is more difficult.

It has been truly stated that the house fly is the greatest menace to the public health that exists in the insect world, not excepting mosquitoes, for mosquitoes do harm only when infected and must derive their specific infection from the human being himself; but the fly is a direct carrier of disease, as it contaminates food and drink by contact.

The remedy lies in cleanliness first, and screening next. Screen your doors and windows, especially those in the kitchen and dining room, with wire netting, which is the more serviceable and less expensive in the long run. Keep the flies out of your house; keep your garbage cans effectively covered; scrub the floors and walls, especially those of the kitchen and dining room, at least twice every week, using hot water or some disinfectant, such as chloride of lime or coal oil. Cold water, unless combined with a disinfectant, will not be effective, as without hard labor and scrubbing it does not remove grease and other matter upon which flies feed.

Keep flies away from your children and off your food and drink. Do not buy cooked food or sweets exposed for sale unscreened.

The Sanitary Department will make removable screens to fit any window or door for any house for a nominal sum upon application to the Health Officer. If there is a nuisance in your neighborhood notify any sanitary inspector, and demand that it be abated.

OFFICIAL CIRCULARS.

Empire Shops Transferred to Central Division.

CULEBRA, C. Z., September 17, 1909.

CIRCULAR NO. 183-M:

In order to promote economy, effective October 1, 1909, the repair of steam shovels and manufacture and repair of steam shovel parts at Empire shops will be transferred from the Mechanical Division to the Central Division. This includes transfer of shops necessary for this work, and of the organization which has been performing it.

Repairs of steam shovels for the Atlantic and Pacific Divisions and Panama railroad, at present made by the Mechanical Division at the Empire shops, will hereafter be performed at the Empire shops by the Central Division.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Chief Engineer Panama Railroad.

PANAMA RAILROAD COMPANY,
COLON, R. P., September 21, 1909.

CIRCULAR 186:

Effective this date, the resignation of Mr. Ralph Budd, as Chief Engineer has been accepted. Mr. Frederick Mears is placed in temporary charge of the engineering department.

HIRAM J. SLIFER, *General Manager.*

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal, Colon and Balboa during the week ended September 18, with supplies for the Isthmian Canal Commission:

Sarnia, September 14, from New York, with 196 barrels insulators for Pedro Miguel and Miraflores Locks; 15 hand cars, and 3,000 gallons air cylinder oil, for stock.

Atenas, September 16, from New Orleans, with 1,000 feet Y. P. lumber for car repairs; 14,000 feet Y. P. lumber for sand wharf, Balboa; 12,830 feet Y. P. lumber for sway braces, Culebra.

Advance, September 17, from New York, with 450 castings for car repairs; 16 tons of machinery for Gatun cableways; 4 churn drills, 20 tons crane parts, for Pacific Division; 2,500 bundles tie plates for stock; 1 gasoline motor car for Atlantic Division; 1 horizontal boring and drilling machine for Cristobal shops; 59,600 cypress cove lumber for Gatun Locks; and a miscellaneous cargo aggregating 3,800 packages weighing 550 tons.

Tricolor, September 18, at Balboa, with 3,500,000 feet Douglas fir lumber, for stock, all divisions.

The following vessels arrived at or departed from the port of Balboa during the week ended September 17:

Arrivals—September 11, *Manavi*, from intermediate ports; September 14, *Arica*, from Guayaquil, and *Pennsylvania*, from San Francisco; September 16, *Limari*, from South ports, and *Chiriqui*, from intermediate ports. Departures—September 12, *Guatemala*, for South ports; September 14, *San Jose*, for San Francisco; September 15, *Manavi*, for intermediate ports.

Proposals for 10,000 Pounds Charcoal.

Sealed bids will be received at the office of the Depot Quartermaster, Mount Hope, C. Z., up to 2 p. m., September 29, 1909, when they will be publicly opened, for 10,000 pounds of charcoal to be made from mangle wood or equal, and to be first-class in every respect. Delivery must be made in one lot within thirty days after award is made. Delivery will be accepted free on board cars at any point on the Panama railroad, and charcoal will be weighed upon receipt at Mount Hope Depot. Material must be delivered in bags, of which an equal number will be returned to the contractor. The right is reserved to reject any and all bids.

C. NIXON,
Purchasing Agent on the Isthmus.

Proposals for Building.

Contract building. Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., September 24, 1909, and then opened, for the erection by contract of a recreation building at Corozal. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $200 when the contract is signed.

R. E. WOOD,
Acting Chief Quartermaster.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

Fifteen new books of fiction were received last week and placed in the circulating library. Within a few minutes after they had been catalogued and put on the shelves all the books were in the hands of readers.

New supplies have been received for the gymnasium, including volley-balls, handballs and handball gloves.

The Empire bowling team will play a game in the tournament series at Culebra, on Wednesday evening, September 23.

In spite of a steady rain during the time of the concert a fair sized audience heard the Hearons Sisters on the night of September 13. Another concert will be given on Friday night, September 24, when an entirely new program will be presented.

EMPIRE.

A match was played between the first and second bowling teams on Friday night, the second team winning three straight.

A camera club dark room has been authorized and construction will begin at once and be pushed to rapid completion. Any member of the Empire Young Men's Christian Association is eligible to membership in the camera club upon the payment of one dollar initiation fee and twenty-five cents monthly dues. These funds will be used to promote the interests of amateur photography.

A large and enthusiastic audience greeted the Hearons Sisters last Thursday. They will fill a return engagement on Thursday of this week.

A smoker has been planned for Monday evening, September 27. All members of the association are invited.

GORGONA.

A large audience gathered for the Hearons Sisters concert on Tuesday, September 14, and all were well pleased. A return engagement by this company will be given on Wednesday evening of this week.

On Sunday evening, September 26, in place of the regular monthly song service and address, a concert of sacred music will be given by the Hearons Sisters The public is cordially invited. No admission fee will be charged. The program will begin at 8.15 o'clock.

CRISTOBAL.

On Tuesday, September 28, the P. R. R. orchestra will give an open house concert, to which the public is cordially invited.

Mr. T. E. W. Oliphant has been appointed librarian and will be on duty each evening. Mr. Dibrell will thus be relieved of the library work and will give his evenings to the duties of office secretary.

The bowling tournament games last Saturday night resulted as follows:

Cristobal.	*First.*	*Second.*	*Third.*	*Total.*
Bullard (captain)	186	160	154	500
Louch	156	158	166	480
Strong	169	190	191	550
Collins	168	127	...	452
Barlow	...	...	157	
Barte	201	198	139	538
Total	880	833	807	2,520
Gorgona.				
Otis	157	161	184	502
King	175	164	151	490
Hayes	151	127	...	390
McConaughey	...	...	112	
Buchanan	194	142	125	461
Humphrey (captain)	157	144	123	424
Total	834	738	695	2,267

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., September 22, 1909.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Ames, L.
Amlaw, Bert
Behla, Herman
Duncan, Walter E.
Fana, Sergeant
Farrell, Master Arthur
Fonseca, Ruben
Grosvenor, Mrs. F. S.
Hanson, Fred. H.
Henderson, Mrs. Sarah Hardin
Hehmeyer, E. H.
Laing, Miss Eugenie
McClean, F. R.
Piffer, Mrs. Ed.
Pracht, Charles
Richardson, Bob
Stokoe, Mr.
Swain, Llewellyn
Tubert, Mrs. L.
Withrow, R. E.
Zamadar, Ahemad Ally

LOST—On September 8 or 9 in Gatun, a gold cuff button, set with small diamond. Finder return to G. C. Hertz, Gatun, and receive reward.

LOST—Canal Medal No. 2152. Finder will please leave it at the Y. M. C. A. in Cristobal.

COMMISSARY DEPARTMENT.

Regulations Regarding Limit on Use of Commissary Books.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Limit on Use of Commissary Books.

Cristobal, C. Z., September 11, 1909.

Circular No. 51:

The time during which commissary books may be used after the expiration of the sixty-day limit will be extended for another sixty days if request is made and books forwarded to this office. Any commissary coupon books not used within the one hundred and twenty days thus provided will not be honored by the Commissary Department, nor will it be extended a second time. It will be necessary for owners of such books to apply to the local auditor of the Panama Railroad Company, Colon, for refund.

Requests for the extension of commissary coupon books in accordance with the above should be addressed, together with books, to Maj. Eugene T. Wilson, Subsistence Officer, Cristobal, under registered cover.

John Burke, *Manager*.

Approved: F. O. Whitlock,
Acting Subsistence Officer.

Retail prices of cold storage provisions for the week beginning September 18:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Steak	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	27
Chops	per lb	29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	20
Cutlets	per lb	23
Pork cuts	per lb	22
Beef—Suet	per lb	4
Soup	per lb	6
Stew	per lb	10
Corned	per lb., 12, 14,	16
Chuck roast	per lb	14
Pot roast	per lb	16
Rib-roast, second cut (not under 3½ pounds)	per lb	19
Rib-roast, first cut (not under 3 pounds)	per lb	21
Sirloin roast	per lb	22
Rump roast	per lb	22
Porterhouse roast	per lb	22
Steak, Chuck	per lb	15
Round	per lb	16
Rib	per lb	21
Sirloin	per lb	22
Porterhouse	per lb	22
Rump	per lb	22
Tenderloin	per lb	27

MISCELLANEOUS.

Livers—Beef	per lb	11½
Calf	each	65
Shad roes	pair	40
Sausage—Pork	per lb	17
Bologna	per lb	17
Frankfurter	per lb	17
Leberwurst	per lb	17
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	30
Eggs, fresh	dozen	32
Bluefish	per lb	15

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls,	each 90,	1.00
Ducks, fatted	each	1.30
medium weight	each	90
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese, fatted, about 10 pounds	each	2.00
12 pounds	each	2.30

CURED AND PICKLED MEATS.

		Price.
Bacon—Breakfast, whole piece	per lb	†27
Breakfast, sliced	per lb	†29
Ham—Sugar-cured, sliced	per lb	§25
One-half, for boiling	per lb	§21
Westphalia	per lb	45
Hocks	per lb	‡8
Sugar cured	per lb	20
Beef, salt, family	per lb	10
Pork, salt	per lb	15
Ham, boiled	per lb	28
Ox tongues	each	1.00
Pigs' feet	per lb	14
tongues	per lb	16

DAIRY PRODUCTS.

Butter—Prints, prime quality	per lb	†42
Cheese—Roquefort	per lb	45
Philadelphia Cream	each	20
Young America	per lb	22
Swiss	per lb	31
Edam	each	1.05
Camembert	per lb	28
Neufchatel	each	6
Gouda	per lb	34
Parmesan	bottle	20
French cheese in tins—Camembert, Brie, Neufchatel	1-lb tin	20
Milk, Briarcliff	bottle	**25

VEGETABLES AND FRUITS.

Celery	per bd	10
Lettuce	per lb	†15
Potatoes, white, old	per lb	3¼
sweet	per lb	2½
Onions	per lb	3
Squash, Hubbard	per lb	5
Yams	per lb	3½
Turnips	per lb	3½
Carrots	per lb	*4
Beets	per lb	5
Potatoes, new	per lb	3½
Cucumbers	per lb	4
Tomatoes	per lb	5
Lemons	dozen	24
Grapes	per lb	10
Limes	per 100	80
Watermelons	each	40
Peaches	per lb	*8
Blueberries	box	18
Cabbage	per lb	4½
Pears	per lb	8
Apples	per lb	6
Oranges	dozen	12
Grapefruit	each	4
Plums	per lb	12

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Rainfall, September 1 to 18, 1909, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

Stations.	Maximum in one day.	Date.	Total for period.
Atlantic Division—			
Cristobal	2.36	12	13.64
Brazos Brook	1.45	7	7.84
Gatun	2.88	10	8.94
Bohio	1.53	13	7.18
Central Division—			
Tabernilla	2.54	11	8.16
San Pablo	2.70	11	8.20
Gorgona	1.41	2	6.55
Gamboa	1.44	7	6.49
Empire	1.78	13	5.83
Camacho	1.86	14	8.25
Culebra	1.66	13	6.38
Pacific Division—			
Rio Grande	1.79	18	7.32
Pedro Miguel	1.75	18	6.67
Balboa	.85	14	3.33
Ancon	.92	18	2.73
Atlantic Coast—			
Porto Bello	2.16	13	8.54
Nombre de Dios, (Sept. 1 to 11.)	1.15	7	4.28
Upper Chagres—			
El Vigia	2.35	5	7.51
Alhajuela	1.71	13	5.58

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending September 29, 1909, (75th meridian time):

Date.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	A. M.	P. M.	P. M.
Sept. 23	....	3.01	8.58	3.48	9.45
Sept. 24	....	4.11	10.08	4.56	11.03
Sept. 25	....	5.33	11.30	6.08	....
			P. M.		
Sept. 26	12.19	6.43	12.46	7.13	....
Sept. 27	1.25	7.43	1.50	8.08	....
Sept. 28	2.18	8.36	2.43	8.58	....
Sept. 29	3.06	9.23	3.30	9.44	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary,

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO COLON.

Ancon	P. R. R.	Thursday	Sept. 16
Oruba	R.-M.	Saturday	Sept. 18
Colon	P. R. R.	Tuesday	Sept. 21
Prinz Aug. Wilhelm	H.-A.	Saturday	Sept. 25
Panama	P. R. R.	Monday	Sept. 27
Cristobal	P. R. R.	Thursday	Sept. 30
Magdalena	R.-M.	Saturday	Oct. 2
Advance	P. R. R.	Saturday	Oct. 2
Allianca	P. R. R.	Friday	Oct. 8
Prinz Joachim	H.-A.	Saturday	Oct. 9
Colon	P. R. R.	Thursday	Oct. 14
Ancon	P. R. R.	Friday	Oct. 15
Clyde	R.-M.	Saturday	Oct. 16
Panama	P. R. R.	Wednesday	Oct. 20
Prinz Aug. Wilhelm	H.-A.	Saturday	Oct. 23
Advance	P. R. R.	Tuesday	Oct. 26
Thames	R.-M.	Saturday	Oct. 30
Prinz Joachim	H.-A.	Saturday	Nov. 6
Atrato	R.-M.	Saturday	Nov. 13
Prinz Aug. Wilhelm	H.-A.	Saturday	Nov. 20
Tagus	R.-M.	Saturday	Nov. 27
Prinz Joachim	H.-A.	Saturday	Dec. 4

Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

COLON TO NEW YORK.

Magdalena	R.-M.	Wednesday	Sept. 22
Allianca	P. R. R.	Monday	Sept. 27
Ancon	P. R. R.	Thursday	Sept. 30
Colon	P. R. R.	Saturday	Oct. 2
Clyde	R.-M.	Wednesday	Oct. 6
Panama	P. R. R.	Friday	Oct. 8
Prinz Aug. Wilhelm	H.-A.	Tuesday	Oct. 12
Advance	P. R. R.	Thursday	Oct. 14
Cristobal	P. R. R.	Friday	Oct. 15
Allianca	P. R. R.	Wednesday	Oct. 20
Thames	R.-M.	Wednesday	Oct. 20
Colon	P. R. R.	Tuesday	Oct. 26
Prinz Joachim	H.-A.	Tuesday	Oct. 26
Ancon	P. R. R.	Thursday	Oct. 28
Panama	P. R. R.	Monday	Nov. 1
Advance	P. R. R.	Saturday	Nov. 6
Prinz Aug. Wilhelm	H.-A.	Tuesday	Nov. 9
Prinz Joachim	H.-A.	Tuesday	Nov. 23
Prinz Aug. Wilhelm	H.-A.	Tuesday	Dec. 7

NEW ORLEANS TO COLON.

Turrialba	U.F.C.	Saturday	Sept. 18
Abangarez	U.F.C.	Saturday	Sept. 25

COLON TO NEW ORLEANS.

Turrialba	U.F.C.	Tuesday	Sept. 28
Abangarez	U.F.C.	Tuesday	Oct. 5

COLON TO BARBADOS, CALLING AT TRINIDAD.

Oruba	R.-M.	Tuesday	Sept. 28

Sailings of the French line (Cie. Générale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Tampican* for New Orleans, via Kingston, Ja., on or about October 2.

The steamers *David* of the National Navigation Company, and the *Taboga* of the Pacific Steam Navigation Company, leave Panama, for David, province of Chiriqui, and intermediate points, the first and third weeks of each month.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight Saturday, September 18, 1909:

	Stations.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft.	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Sept. 12	129.7	96.0	54.5	14.9	8.0	7.2
Monday, Sept. 13	140.4	100.7	54.9	10.9	6.9	6.1
Tuesday, Sept. 14	141.4	103.2	61.6	20.4	11.1	9.6
Wed'esday, Sept. 15	132.6	98.5	56.7	18.7	11.7	9.8
Thursday, Sept 16	128.2	94.8	50.1	14.6	11.0	9.2
Friday, Sept. 17	127.6	94.1	49.3	11.0	8.4	6.9
Saturday, Sept. 18	127.8	94.2	49.5	8.8	5.8	4.7

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, SEPTEMBER 29, 1909. No. 5.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

NOTES OF PROGRESS.

Partial Collapse of a Cableway Tower at Gatun.

The lower portion of one of the head towers of the lock cableways at the Gatun handling plant collapsed on the afternoon of Friday, September 24. The tower was being moved along the tracks by its own power at the time. There were several men at work on various parts of the structure, none of whom was injured. The portion that collapsed was that between the operating platform and the concrete counterweight. The tower settled toward the west, away from the lock site, until the operating platform rested on the concrete counterweight. The members that failed were designed for tension only and were evidently brought in compression while the tower was being moved.

Both the lock and unloading cableways were designed and built by contract under a guarantee of satisfactory performance and none of the cableways at the Gatun handling plant has been accepted by the Isthmian Canal Commission. The repairs to this tower, and the reinforcement of all the other towers necessary to prevent similar accidents can be made in a few weeks, the damage and weakness being confined to structural work in the lower part of the towers.

A cable message has been sent to the contractor informing him of the accident and of the Commission's intention to proceed with the repairs. The contractor will have the privilege of sending a representative to the Isthmus while repairs are being made.

This accident will not interfere materially with the work of placing concrete in the Gatun Locks. There are three duplex cableways still available for work and they will be temporarily strengthened with timber struts within a few days so that they will be safe to use. The contractor is expected to make the permanent repairs.

Cables for Lidgerwood Unloaders.

A committee has been appointed to summarize the results of tests of cables used on Lidgerwood unloading machines, and to prepare specifications in accordance with its findings. The tests have extended over a period of 18 months and a large amount of data has been procured that will be of value in the purchase of cable. The representatives of a number of wire rope manufacturers spent some time on the Isthmus and all of them state that the service here is as hard if not harder than any that their cables have ever been subjected to. The tests were of a practical nature, the men on the unloaders being required to keep a record of the work done by the various cables until they broke. The rope of three companies was found to have a decided superiority over all others, and that of one company is superior for splicing purposes. The cables used on the Lidgerwood unloaders are 1½ inches in diameter and 1,000 feet long. They cost from 36 to 46 cents per foot.

Lights in Colon and Cristobal.

The Commission will assume control of the lighting of Colon and Cristobal on October 1. A value of $11,664.73 has been placed on the pole lines and fixtures to be taken over from the Panama railroad. For the present current will be furnished by the cold storage plant, but as soon as cycle changers have been installed current will be furnished from the power plant at Gatun Locks.

Floor of Gatun Locks.

The plan adopted for the floor of the upper locks at Gatun has been amended so far as concerns the part below the intermediate gate sill. The report of the board, as approved by the Chief Engineer and published in THE CANAL RECORD, July 14, 1909, said:

> Below the intermediate gate sill the stratum overlying the soft sandstone is of sufficient thickness and soundness to be trenched for the culverts, the floor between the culvert trenches to be made relatively thin. For this portion of the floor the Board recommends that the culverts be placed in trenches under the walls and floor, and that the floor between the culverts be made 3 feet thick, all to be anchored to the underlying material with rails penetrating not more than 10 feet. It is the intention that the penetration of these anchoring rails shall be such that the hold developed in the stone will be approximately equal to that developed in the concrete of the floor, latter being increased by transverse bolts or otherwise.

The plan as changed is to drain the back of the lock walls, below the intermediate sill. There will then be no reason to fear that an upward pressure will develop under the lower portion of the floor. The anchors recommended in the report will, therefore, not be placed.

Economy in Use of Lubricating Oils.

The expert on lubricating oils maintained on the Isthmus by the contractor who is supplying engine, valve, and car oils, has recommended that oil supply cans on locomotives be of uniform size, of standard and substantial make, and of two-gallon capacity. In order clearly to distinguish the kind of oil each can contains, a brass plate will be attached to it bearing in stencil the name of the oil. Supply cans now in use on locomotives will be repaired where necessary, and in the future repairs will be made to cans as soon as the necessity develops.

New Buildings and Changes.

Plans have been prepared at the office of the Constructing Quartermaster for a dispensary and sick camp at Nombre de Dios, the site of the sand deposits of the Atlantic Division. The building will be two stories in height, 31 feet long by 39 feet wide, and will be located about 20 feet distant from the type-5 bachelor quarters completed a short time ago. The first story will contain the dispensary, office, and a ward, while the upper story will contain an additional ward and be provided with sleeping quarters for the physician in charge. One of the wards will be for white employes, and the other for colored, each having space for four or five beds. There will be a toilet, lavatory and shower on each floor.

House No. 141, located below the hospital road, about 100 yards distant from the laundry at Ancon, has been converted into quarters for one family by changing the interior arrangement and making a 6-foot extension to the rear. The building was at one time used as a field office by the municipal engineering forces.

Construction at the new Gamboa engine yard is well advanced, and the entire work will be completed by the contractor within the next few days.

The second story of the Commission hotel at East Balboa is being converted into a hall for lodge and social purposes for the employes at that point.

Plans have been made for a new yard office to be built on the west bank of the Canal, a short distance from the Gamboa bridge.

A commissary has been authorized for Corozal, and plans for the building will be ready shortly.

New Type of Steam Shovel.

A type No. 1 full circle swing steam shovel has been received by the Pacific Division, and as soon as it is set up at the Empire shops it will be used in the work of excavating the trenches for the culvert system at the Pedro Miguel Locks. It was manufactured by the Thew Automatic Shovel Company of Lorain, O., and in general appearance resembles a locomotive crane, for which it can be used. It can also be used for handling clam-shell buckets when equipped with a special boom with a derricking motion. It is mounted on car wheels and is self-propelling, although traction wheels can be used when desired. The machinery is so arranged that the operator can do his own firing, provided only a limited output is required.

The machine is equipped with a dipper of one cubic yard capacity, and the hoisting,

NOTES OF PROGRESS.

(Continued.)

swinging and crowding motions are controlled by separate horizontal engines of the double reversing type. The weight is approximately 50,000 pounds. The clearance length of boom detached is 16 feet; clearance height of house, 13 feet 4 inches; clearance width of house, 8 feet 10 inches; clearance swing of rear end, 10 feet 6 inches; clearance swing of boom, 20 feet, 6 inches; clearance lift for dipper, 11 feet. The radius of cut at the height of 9 feet is 23 feet 6 inches; radius of cut at floor level, 15 feet; length of crowding motion, 7 feet. The swinging and crowding motions are operated by 5x6-inch engines. The boiler is of the vertical tubular type, with dimensions of 45 by 84 inches. The working steam pressure is from 80 to 100 pounds, and the rated capacity of the shovel is from 50 to 60 cubic yards per hour..

Gatun Dam and Spillway.

The surface of the water in the hydraulic fill at Gatun Dam was raised three feet on August 23, and three feet more on September 8. During part of the month of August only one of the 20-inch suction dredges was working on the fill, one of them being at Mount Hope marine shops for repairs, and the other on its way from a position north of the Dam to its present position south of the dam.

The placing of dry fill on the toes of the dam with miscellaneous spoil from Mindi, Bohio, Buena Vista, and rock from Culebra Cut, continues. A trestle is being driven on the 30-foot contour at the south end of the spillway and will be continued across the West Diversion. When the diversion is closed and the water of the Chagres is allowed to run through the spillway, a big dump will be opened on the south, or upstream toe of the dam, west of the diversion. In addition to spoil from nearby work, miscellaneous excavation will be taken from Culebra Cut, and it is expected that as many as twelve trains will be run daily from Bas Obispo to Gatun, a distance of 24 miles.

In August 5,496 cubic yards of concrete were laid in the spillway and the work is continuing at the rate of about 200 cubic yards a day. The building of the walls continues, and the floor is practically completed both north and south of the site of the concrete dam. Excavation is in progress preparing the rock in the entrance to the spillway for the concrete facing, and the work of placing the facing is well advanced.

Rock Crushing Operations at Porto Bello.

Of the seven steam shovels stationed at Porto Bello in connection with rock crushing operations, two are employed on preliminary work and two in delivering rock to the crushers. The completion of the storage bin for crushed rock has enabled the force to keep well ahead of the stone transportation, as the capacity of the bin is 2,400 cubic yards, or a quantity sufficient to load six barges. For a time after the plant was started, it was necessary to convey the rock directly from the crushers into the barges, but they are now loaded from the bin, and the crushers keep steadily at work until the storage space is filled. The fifth and sixth No. 6 crushers are being installed and will be used as reserve in case one or more of the other machines become disabled. These machines will increase the total to two No. 9, and six No. 6 crushers.

The work of stripping rock in the quarry has been greatly facilitated by the installation of a new duplex compound direct-connected hydraulic pump, with air pump and jet condenser, made by the Canton-Hughes Pump Company of Canton, O. This pump has a 16-inch stroke, with a high pressure cylinder 28 inches in diameter, and a low pressure cylinder 13¾ inches in diameter. It is provided with a 14-inch suction and a 10-inch discharge, and is capable of discharging 1,500 gallons of water per minute, against a pressure of 250 pounds to the square inch. A Smith-Vaile Underwriters fire pump, with same capacity operating against a pressure of 175 pounds to the square inch, has been used in the hydraulic operations at the quarry heretofore.

The installation of two additional 191-h. p. Sterling boilers has been completed, increasing the total boiler house equipment to eight boilers. A new 300-h. p. Ball driving engine, a duplicate of the one installed when operations were begun, has been placed in the engine house, and will be kept in reserve. The recent machinery installations at the Porto Bello plant have been made largely with a view of protection against possible breakdowns, and at the present time nearly all the parts liable to disablement have been duplicated.

A new 25-ton locomotive crane of a 3-foot 6-inch gauge, made by The Industrial Works, Bay City, Mich., was received recently, and will be used as a wrecking crane. A 15-ton crane of the American Hoist and Derrick Company is used for ordinary work about the plant.

New Office at Gorgona Shops.

The recent changes in the Mechanical Division, by which all work but that incident to steam shovel repairs will be transferred from the Empire to the Gorgona shops, will result in the removal of the drafting force of the Mechanical Division from the Administration Building at Culebra to Gorgona, as soon as a new office building for its use can be completed. Plans for this office is now in course of preparation and call for the erection of a one-story frame building, 80 feet long and 34 feet wide, to be located between the present storehouse and shop office. It will have a corrugated iron roof, with skylights on each side 48 feet long and 6 feet wide. Most of the room will be used by the drafting force, but there will be space provided for work of a clerical nature. Construction will begin as soon as possible after the first of October.

The changes also involve the transfer of a large amount of material, such as car parts, etc., from the Empire to the Gorgona storehouse.

Cost of Repairs to Steam Shovels.

Repairs to steam shovels at Empire shops during the fiscal year 1909 cost only seven-eighths of a cent per cubic yard of material excavated, instead of eight cents as stated erroneously in THE CANAL RECORD of last week. The total cost of these repairs was $197,612.42, and the material excavated amounted to 22,583,099 cubic yards. The shop cost does not include the cost of repairs made in the field or that of repairs made to steam shovel parts taken to the shops while the shovel is kept in service by substituting other parts. These repairs are known as field repairs and are made in the field shops and on the work, often while the shovel is waiting for cars.

A statement of the cost of steam shovel repairs in the three construction divisions from January, 1908, to June, 1909, inclusive, a period of 18 months, follows:

ITEM.	DIVISIONS.			Total.
	Central.	Atlantic.	Pacific.	
Cubic yds.	27,752,750	4,148,997	1,980,069	33,881,816
Field cost.	$596,059.02	$51,786.74	$19,917.58	$667,763.34
Shop cost..	$283,746.76	$51,782.61	$22 246.75	$357,776.12
Cost per cubic yd:	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Division	2.14	1.25	1.01	1.97
Shop....	1.02	1.25	1.12	1.06
Total....	3.16	2.50	2.13	3.03

The shovels in the Central Division are subjected to harder and more constant usage than those of the other two divisions. Of the 101 steam shovels in the Canal and Panama railroad service 61 are in the service of the Central Division, most of them in Culebra Cut.

Sample Sales of Scrap Material.

In order that the Commission might have a practical idea of the value of the scrap iron and steel to be sold some sample shipments were made, and the prices which they brought in the open market at New York were as follows:

Forty tons American scrap and 370 tons foreign scrap, $13.80 per gross ton.

Four hundred and fifty-one thousand four hundred and twenty pounds of scrap, $13.76 per gross ton.

Six hundred and seventy-eight thousand pounds of scrap, 97¾ cents per hundredweight.

Eight 6 ton boilers, $4.76 per hundredweight; eleven 4½-ton boilers, $20.76 per gross ton; five 3-ton car bodies, 60 cents per hundredweight; 10 tons of crane parts, 60 cents per hundredweight; 65 tons of scrap, 60 cents per hundredweight.

Some old scrap screening was sold for 8¼ cents per pound.

The eight 6-ton boilers sold for $0.0476 per pound, or $560 for each boiler. On the basis of what the other scrap sold for, each of these boilers was valued by the purchaser as follows: Five thousand one hundred and fifty pounds of brass and copper at $0.097 per pound amounted to about $500, and six thousand six hundred and fifteen pounds of iron and steel at $0.0092 per pound amounted to about $60, a total of $560.

A quantity of scrap brass and copper mosquito screening is being prepared by the Quartermaster's Department for shipment to the States where it will be sold in the open market. A shipment of 103,509 pounds, consisting of useless old material and waste bits of new, was made in March and sold in New York for $7,710. The scrap is carefully collected by the district quartermasters, and when an amount suitable for shipment has been accumulated it is sent to New York.

Fire Station at Bas Obispo.

The contract for the erection of the new fire station at Bas Obispo has been awarded to A. Hinselman, a private contractor, and the work will be started in a few days. It will be two stories in height, 16 by 20 feet in size, and of practically the same type as the stations at Balboa and Corozal. The volunteer fire company at Bas Obispo, consisting of about 20 men, has been occupying quarters in the half of an old building, part of which is utilized as a storehouse. Living quarters will be provided above the station for two or three of the volunteer members, who will be within easy call in case of an alarm of fire. The station will be equipped with a hand reel, about 500 feet of hose, and other apparatus that goes with a station of this size.

TARIFF LAW IN CANAL ZONE.

Text of the Opinion of Acting Attorney General on Act of August 5, 1909.

Department of Justice,
Washington, September 8, 1909.

The Honorable the Secretary of War:

Sir—I have the honor to acknowledge your letter of the 3d instant requesting an opinion as to whether or not the first clause of the Tariff Act approved August 5, 1909, makes its provisions applicable to the Canal Zone; that is to say, whether or not the Canal Zone is a "possession" of the United States within the meaning of that Act?

The first clause of the Tariff Act provides as follows:

> That on and after the day following the passage of this Act, except as otherwise specially provided for in the second section of this Act, there shall be levied, collected, and paid upon all articles when imported from any foreign country into the United States or into any of its possessions (except the Philippine Islands and the islands of Guam and Tutuila) the rates of duty which are by the schedules and paragraphs of the dutiable list of this section prescribed.

In my opinion the Canal Zone is not one of the possessions of the United States within the meaning of that term as used by Congress in the Tariff Act, but rather is a place subject to the use, occupation and control of the United States for a particular purpose, to wit, the construction and maintenance of a ship canal connecting the waters of the Atlantic and Pacific oceans.

It will assist in the consideration of the question involved to review the acts of Congress and the Executive Orders, which, at the time of the passage of the Tariff Act of August 5, 1909, regulated the importation into the Canal Zone and the exportation therefrom of merchandise.

The XIII Article of the Treaty between the Republic of Panama and the United States, ratified by the Senate on February 23, 1904, is as follows:

> The United States may import at any time into the said Zone and auxiliary lands, free of custom duties, imposts, taxes, or other charges, and without any restrictions, any and all vessels, dredges, engines, cars, machinery, tools, explosives, materials, supplies, and other articles necessary and convenient in the construction, maintenance, operation, sanitation and protection of the Canal and auxiliary works, and all provisions, medicines, clothing, supplies, and other things necessary and convenient for the officers, employes, workmen and laborers in the service and employ of the United States and for their families. If any such articles are disposed of for use outside of the Zone and auxiliary lands granted to the United States and within the territory of the Republic, they shall be subject to the same import or other duties as like articles imported under the laws of the Republic of Panama.

The Act of Congress, April 28, 1904 (33 Stat., 429), declared that the power to make all rules and regulations necessary for the government of the Canal Zone, and all the rights, powers and authority granted by the terms of the Treaty should be vested in such person or persons, and should be exercised in such manner, as the President should direct for the government of said zone. (See also 26 Op. Atty. Gen., 113.)

Under the authority conferred by the Act just referred to the President, by an Executive Order dated May 9, 1904, directed that the governmental power vested in him by the Act of April 28, 1904, should be vested in the Isthmian Canal Commission, to be exercised under the supervision and direction of the Secretary of War.

Thereafter the orders of the Secretary of War dated December 3, 6, 16 and 28, 1904, and January 7, 1905, prescribed the conditions under which merchandise might be imported into the Canal Zone. The first section of the order of December 3, limits the importation of merchandise which can be entered at the terminal and only ports of the Canal to the merchandise which the United States, under Article XIII, above quoted, is entitled to bring into the Zone, free of taxation, for use in the construction of the Canal, and to merchandise in transit across the Isthmus for a destination without the limits of the Isthmus; and, in addition, to coal and crude mineral oil for fuel purposes. Section 4, of the same order provides for complete free trade between the Canal Zone and the Republic of Panama, both of persons and of merchandise, and repeals Section 5 of the Executive Order of June 24, 1904, which had made operative in the Canal Zone the provisions of the Dingley Tariff of 1897 respecting importation of merchandise.

The order of December 6, provided that merchandise which, under the terms of the first section of the order of December 3, could not be entered at the Canal ports might be entered there upon payment of the proper duties to the Republic of Panama.

Before the passage of the Tariff Act of August 5, Congress had declared that the importations of merchandise from the Canal Zone, and the entry of persons into the United States therefrom, should be subject to the laws of the United States respecting the importation of merchandise and entry of persons from foreign countries. (March 2, 1905, 33 Stat., 843.) This act is still in operation.

There is nothing in the Tariff Act of August 5, 1909, to indicate that Congress intended to disturb the customs arrangements effective in the Canal Zone at the time of its enactment and operative therein by virtue of the authority conferred by the Act of April 28, 1904, and subsequent acts. To hold otherwise would lead to the anomalous conclusion that Congress intended that the Canal Zone should be regarded a foreign country as to exports therefrom to the United States, but a possession of the United States as to importations into the Canal Zone from foreign countries.

Accordingly, I have the honor to advise you that, in my opinion, the provisions of the Tariff Act of August 5, 1909, do not apply to the Canal Zone. Respectfully,

Wade H. Ellis,
Acting Attorney General.

Approved:
Geo. W. Wickersham,
Attorney General.

Repairing the Spoil Cars.

In the month of August, 11,132 construction cars were repaired at the shops of the Mechanical Division. This does not represent all the car repairing done on the Canal work, as field repairs for the Atlantic and Pacific Divisions are not done in the shops of the Mechanical Division. Repairing to cars is divided into three classes. The first of these consists of heavy repairs, and for this purpose cars are hauled to the shops and, if necessary, rebuilt. It includes such work as putting in new sills and similar repairs that could not be handled advantageously in the field. Repairs of this character were made at Cristobal to 50 cars; at Gorgona, where the wood cars are repaired, to 158 cars, and at Empire, where repairs were made on steel cars, to 171 cars.

Light repairs are made at the shops and in the "bad order" yards, and they include such work as cannot be done economically in the field. In August the following were handled:

Pedro Miguel	1,913
Las Cascadas	1,139
Gorgona	411
Empire	202
Total	3,665

Field or running repairs are made in the small field shops, or by men sent out from the field shops. They include in general such repairs as can be made to cars while they are waiting alongside a shovel or are standing on the dumps waiting to be unloaded. Such repairs were made by the field shops as follows:

Tabernilla	1,037
San Pablo	939
Bas Obispo	1,003
Whitehouse	274
Cableway	1,759
Cucaracha	1,278
Balboa	748
Total	7,088

Reception to Mr. and Mrs. Blackburn.

An informal farewell reception to Commissioner and Mrs. Blackburn has been arranged to take place at Hotel Tivoli on Saturday evening, October 2. It is designed to afford opportunity for a manifestation, on the eve of their departure for the States, of the high esteem and affectionate regard in which they are held by their associates and friends. The public is cordially invited to attend. A special train for people from along the line who wish to attend the reception will leave Panama at 12.05 o'clock Sunday morning, and no transportation will be charged on it.

Sailing of the Ancon and Cristobal.

The steamship *Ancon* sailed from New York at noon on Thursday, September 23, but was delayed in the lower harbor by fog. No information has been received as to when she passed Sandy Hook. There are 70 passengers aboard and she has a cargo of 5,700 tons of freight, 16,500 barrels and 22,000 bags of cement.

The steamship *Cristobal* will sail from New York on October 6.

Committee on Standard Specifications.

A committee appointed on August 27 is at work examining all Isthmian Canal Commission specifications that have been printed or are under consideration. The report will be submitted to the Superintendent of Motive Power and Machinery, the Chief Quartermaster and the General Purchasing Officer for comment before it goes to the Chairman for final action. The committee is taking up in numerical order the specifications already approved by the Chief Engineer, with all the criticism and comments on file, and will recommend such revisions as seem desirable. After this work is completed it will consider the specifications which have been prepared by the Mechanical Engineer, the superintendents of plumbing and of painting, and others, and will compile them in form for approval and printing. The report will be accompanied by a code of instructions for using the I. C. C. standard specifications.

Food Supplies for Camp Elliott.

By order from the headquarters of the Marine Corps in Washington, all food supplies needed at Camp Elliott during the present fiscal year are to be purchased from the Subsistence Department of the Commission. The marines require about $4,000 worth of food each month.

DREDGING IN AUGUST.

Operations in Atlantic and Pacific Divisions Show a Decrease From July.

The combined output of the dredges of the Atlantic and Pacific Divisions for August amounted to 1,459,961 cubic yards, as compared with 1,775,077 cubic yards for July, a decrease of 315,116 cubic yards. Of the August excavation, 1,097,856 cubic yards were removed from the Canal prism, and 362,105 cubic yards from outside works. In the Atlantic Division, 422,846 cubic yards were taken from the Canal prism, and 355,505 cubic yards from outside works. In the Pacific Division, 619,663 cubic yards belonged to Canal excavation, and 6,600 cubic yards represented other operations. The dredging output fell off in both divisions; in the Atlantic Division it was 230,375 cubic yards less, and in the Pacific Division 84,741 cubic yards less than in July.

The dredges in the harbor and channel section of the Atlantic Division removed 388,282 cubic yards of earth, and 34,564 cubic yards of rock from the prism. Of the 307,914 cubic yards taken out by the suction dredge *Caribbean*, 87,130 cubic yards of earth were dredged from the approach channel to Cristobal Harbor, and 9,284 cubic yards of earth from in front of Pier 11. The remainder of its output, 211,500 cubic yards were from the Canal prism. The dipper dredge *Mindi* took out 2,000 cubic yards of earth and 43,512 cubic yards of coral and rock from in front of Pier 11. This dredge has done no Canal excavation for over a year. Dredges *No. 1*, *No. 5*, and *No. 6* worked the entire month in the prism. The low record of dredges *No. 5* and *No. 6* is accounted for by the fact that they were excavating in rock nearly the whole month.

In the Gatun section, dredge *No. 82* continued work north of Gatun Dam until August 9, when it was transferred to the new borrow pit south of the Dam. On account of a strong current in the West Diversion the transfer occupied six days, and there was an additional delay of three days due to the installation of a new pump case. Dredge *No. 83* worked the entire month in Borrow Pit No. 1. Dredge *No. 85* was in dry dock until August 23, when it was put to work in Borrow Pit No. 1.

The tabular statement of operations in the Atlantic Division follows:

Dredge.	Type.	Cu. Yds.
Caribbean	Suction	307,914
No. 1	Ladder	160,105
No. 5	Ladder	23,846
No. 6	Ladder	27,395
Mindi	Dipper	45,512
No. 82	Suction	72,328
No. 83	Suction	123,158
No. 85	Suction	18,093
Total		778,351

In the Pacific Division, the dredge *Culebra* worked from August 2 to 4 in deepening the channel. It was then beached on Naos Island for general repairs remaining there until August 17, when it resumed work in the channel. The ladder dredge *Gopher* was out of commission the entire month, and is being given a general overhauling. The ladder dredge *Mole* worked from August 1 to 29, continuing the cut along the west bank of the new channel from buoy No. 15 to station 2331. On August 29 and 30, the dredge excavated 3,000 cubic yards of sand at Point Chamé. The ladder dredge *Badger* excavated during the entire month in the upper French canal, continuing the cut to the east limit line. The dipper dredge *Cardenas* was put to work on August 2 and 3, in front of the Panama railroad coal dock to deepen the basin at that point, and removed 3,600 cubic yards of material. On the 3d, the dredge was moved to the west side of the Canal at station *2225* to clean off a rock shoal, and worked there until the 14th, removing 19,430 cubic yards of earth and 4,470 cubic yards of broken rock and boulders. On the 14th the dredge was moved to the east side of the Canal at station 2213, working at that point for the remainder of the month, and completing the cut along bank to station 2206. The ladder dredge *Marmot* worked during the entire month in the upper French canal completing the cut to the west limit line, and starting a cut parallel to the Canal axis. The *Sandpiper* continued work at the Miraflores Locks, and pumped 51,747 cubic yards of material into the West Dam core. The orange peel dredge was not working in August.

The tabular statement of operations in the Pacific Division follows:

Dredge.	Type.	Cu. Yds.
Culebra	Suction	151,870
Gopher	Ladder	
Mole	Ladder	*109,523
Badger	Ladder	142,241
Cardenas	Dipper	75,462
Marmot	Ladder	150,767
Sandpiper	Suction	51,747
Orange Peel	O. P.	
Total		681,610

* Includes 3,000 cubic yards of sand dredged at Chamé.

Renumbering of Ancon Hospital Wards.

The additions made to Ancon Hospital from time to time have caused some confusion in the numbering of wards and sections, and with the approaching completion of the four new surgical wards it has been decided to renumber them in a systematic manner. Under the new arrangement the numbers follow consecutively from the main entrance upward, with the designations as given below:

Section A—Wards 1, 2, 3 and 4, as formerly.

Section B—Wards 5 and 6, as formerly, together with the new surgical wards numbered 7, 8, 9 and 10.

Section C—Includes the former Section E wards 9 and 10, renumbered 11 and 12.

Section D—Replaces the former Section C wards numbered 13 and 14, instead of 11 and 12. Ward 15 to replace the former 16A, and No. 16 to replace the former No. 16-B.

Section E—Replaces the former Section G. Wards 15, 14, and 17, renumbered 17, 18 and 19.

Section F—Replaces the former Section D. The former wards Nos. 18-A, 19-A, 18-B, and 19-B changed to Nos. 20, 21, 22 and 23.

Section G—Tuberculosis wards Nos. 24 and 25 replacing ward No. 26.

Section H—Isolation wards Nos. 26, 27, 28 and 29 replacing former ward No. 27.

Section I—Replaces former Section F. Wards Nos. 20, 21, 22, 23, 24, and 25 renumbered 30, 31, 32, 33, 34, 35 36 and 37.

Under the old system of numbering there were 27 wards; under the new system there are 37.

Navigation in Pacific Entrance.

In the directions for ships using the five miles of the Canal at the Pacific entrance now open to navigation, published in THE CANAL RECORD of August 25, 1909, and communicated to the shipping interests of all maritime nations, an error was made in the azimuth of the center line, which was given as 151 degrees, 44 minutes, and 35 seconds. The correct azimuth is 141 degrees, 44 minutes, and 35 seconds, and the directions should therefore read:

> The center of the channel at the sea end is about 6,000 feet distant from San Jose Rock, the outer one of the cluster of five islands immediately south of Panama and about four miles distant from the city of Panama. The azimuth from this center of channel point to the triangulation station on San Jose Rock is 240 degrees.
>
> The channel is open from this point to Balboa wharf, a distance of about five miles, to its full 500-foot bottom width, although not to its full depth, and the azimuth of the center line is 141 degrees, 44 minutes, and 35 seconds.

Addition to Interlocking System.

A new interlocking plant, the largest in the Panama Railroad Company's system, was placed in operation at Matachin on Sunday, September 19, having been constructed on the Isthmus by the forces of the telephone and telegraph department. It replaces a smaller layout, and was installed in anticipation of a large increase in traffic from the Canal tracks to the main line at this point. The equipment consists of sixteen levers in an improved type of Saxby and Farmer machine, which operates a dump track crossover connection from the Canal tracks, to the northbound and southbound main line tracks of the Panama railroad, respectively. Route signaling is provided, and the entire plant is in accordance with the standard of signal practice in vogue in the States.

The first of the six interlocking plants that now comprise the system was installed at Miraflores on March 1, 1908. The list is as follows: Balboa wye, with 6 levers; Miraflores, with 13 levers; Paraiso, with 12 levers; Las Cascadas, with 8 levers; Matachin, with 16 levers, and Gorgona, with 8 levers. Changes are made and the service extended as conditions may require.

In addition to the regular interlocking plant, distance switch signals have been placed at necessary points along the main line from Panama to Colon, the signal control in these devices being effected by means of a two-lever switch and signal arrangement, which provides a signal lever interlocked with a switch lever. Automatic and semi-automatic signals are in use at Barbacoas bridge over the Chagres River, and at the Black Swamp crossing.

Work of the Track Shifters.

The following is a statement of track raised and thrown in the Central Division during the month of August, 1909.

No. of track shifter.	Location.	No. of feet.
5	Tabernilla	231,600
6	Caimito and San Pablo	79,662
7	Santa Cruz relocation	120,000
8	Miraflores	102,258
2 & 9	Balboa	91,300
Total		624,820

New Bids for Air Compressors.

The bids submitted by various manufacturers for two air compressors, one for Las Cascadas and one for Rio Grande, have been rejected and new bids will be asked for. The compressors are needed to supplement those now in use supplying air for the drills in Culebra Cut. Some of the drills are now working at night in order that the blasting may be kept far enough in advance of the steam shovels so as not to interfere with excavation.

ESTIMATES FOR 1911.

Amount Necessary to Carry on Canal Construction $48,063,524.70.

The estimates of money necessary to continue the construction of the Isthmian Canal in the fiscal year 1911, which will be acted upon by Congress at the coming session, have been forwarded to the Secretary of War. The appropriations to date and the estimates since 1907, inclusive, are as follows:

APPROPRIATIONS.

Payment to the New Panama Canal Company	$40,000,000.00
Payment to Republic of Panama	10,000,000.00
Appropriation for 1902	10,000,000.00
Appropriation for 1906	11,000,000.00
Deficiency for 1906	5,990,786.00
Appropriation for 1907	25,456,415.08
Appropriation for 1908	27,161,367.50
Deficiency for 1908	12,178,900.00
Appropriation for 1909	29,187,000.00
Deficiency for 1909	5,458,000.00
Appropriation for 1910	33,638,000.00
Total appropriations to date	$210,070,468.58

ESTIMATES.

1907	$26,648,281.40
1908	25,406,258.73
1909	33,183,143.60
1910	35,886,190.58
1911	48,063,524.70

The estimate of $48,063,524.70 for the fiscal year 1911, is made up of estimates under 14 items as follows:

Item 1—For salaries of all officers and employes in the United States:

Office of the General Counsel	$7,343.34
Office of administration	47,290.00
Custodian's force	7,640.00
Office of General Purchasing Officer	35,940.00
Office of Disbursing Officer	35,060.00
Office of Assistant Examiner of Accounts	10,260.00
Office of Inspecting Engineer	10,620.00
Office of Assistant Purchasing Officer, New York	5,866.66
Medical Supply Depot, New York	3,300.00
Office of Assistant Purchasing Agent, New Orleans	1,680.00
Total	$165,000.00

Item 2—Incidental expenses in the United States:

Printing and binding	$36,425.00
Telegraph, telephone, and cable	17,575.00
Traveling expenses in the United States	7,800.00
Light, fuel, power	2,500.00
Office supplies and incidentals	10,800.00
Rent of buildings	8,900.00
Additional compensation to Auditor for War Department	1,000.00
Total	$85,000 00

Item 3—For pay of members of the Commission, officers and employes on the Isthmus, other than skilled and unskilled labor, in the Departments of Construction and Engineering, Quartermaster's, Subsistence, Disbursements, and Examination of Accounts:

Construction and Engineering	$3,562,392.00
Quartermaster's Department	445,004.00
Disbursements	69,010.00
Examination of Accounts	216,480.00
Total	$4,292,886.00

Item 4—For skilled and unskilled labor on the Isthmus for the Departments of Construction and Engineering, Quartermaster's, Disbursements, and Examination of Accounts:

Construction and Engineering	$14,605,304.90
Quartermaster's Department	897,831.28
Examination of Accounts	900.00
Total	$15,504,036.18

Item 5—For purchase and delivery of materials and supplies for the Departments of Construction and Engineering, Quartermaster's, Subsistence, Disbursements and Examination of Accounts:

Construction and Engineering	$18,053,965.00
Plant	1,505,018.00
Quartermaster's Department	582,000.00
Subsistence Department	60,000.00
Examination of Accounts	18,000 00
Total	$20,218,983.00

Item 6—To continue the equipment and construction of the Panama railroad (guaranteed by 4 per cent bonds of the railroad company):

Completion of substructure, erection of superstructure and machinery for handling freight, Dock 12, Cristobal	$300,000.00
Substructure for dock extension, Balboa	600,000.00
Substructure for rebuilding of permanent lines, Dock 11, Cristobal	500,000.00
Total	$1,400,000.00

Item 7—Miscellaneous expenditures for the Departments of Construction and Engineering, Quartermaster's, Subsistence, Disbursements, and Examination of Accounts:

Transportation of currency	$300.00
Recruiting laborers and transportation	129,200.00
Transportation of employes to and from United States	55,800.00
Traveling expenses on the Isthmus	9,000.00
Traveling expenses in the United States	43,300.00
Passenger transportation on the Isthmus	132,000.00
Freight transportation on the Isthmus	684,000.00
Telegraph and telephones	112,800.00
Total	$1,166,400.00

Item 8—For pay of the member of the Commission in charge of the Department of Civil Administration, and of all officers and employes other than skilled and unskilled laborers	$546,040.00
Item 9—For pay of skilled and unskilled laborers for the Department of Civil Administration	87,781.00
Item 10—For materials, supplies, equipment, repairs of building and contingent expenses of the Department of Civil Administration	104,531.92
Item 11—For pay of the member of the Commission in charge of the Department of Sanitation, and all officers and employes other than skilled and unskilled laborers	731,180.00
Item 12—For pay of skilled and unskilled laborers for the Department of Sanitation	241,942.00
Item 13—For materials, supplies, equipment, repairs and construction of buildings for the Department of Sanitation	1,019,744.00
Item 14—For relocation of the Panama railroad, all expenses	2,500,000.00
Total	$48,063,524.70

Accounts of Cristobal Fourth of July Celebration.

The committee that had charge of the Fourth of July celebration in Cristobal and Colon met in the office of the General Manager of the Panama railroad, on September 21, and accepted the final report, which had been audited, by request, by the local auditor of the Panama railroad. The report is as follows:

Balance left over in hands of Zone Treasurer, (Mr. Williams) for previous year	$120.96
Balance left over from previous year in hands of local treasurer (Mr. Stickle)	17.00
Amount collected by various committees (Mr. Perry, chairman)	2,132.26
Total funds available	$2,270.22
Expenses as per vouchers submitted (Mr. Fechtig)	2,003.67
Balance on hand	$266 55
Amount in hands of Mr. Williams, 1908	$120.96
Amount to be turned over to Mr. Williams, by Mr. R. H. Wardlaw, Cashier, P. R. R., 1909	145.59
Total in hands of Mr. Williams	$266.55

THE CANAL RECORD: In behalf of myself and son I wish to thank the Commission, the members of organizations of which my husband was a member, and all the friends who have extended help and sympathy to us since the death of my husband, Mr. H. C. Ball.

MRS. H. C. BALL.

Empire, September 24, 1909.

EXECUTIVE ORDER.

Hunting Laws.

Under authority vested in me by law it is ordered:

Section 454 of Act No. 14 of the Laws of the Canal Zone is amended to read as follows:

"SEC. 454. Permits to hunt with firearms upon the public lands of the Canal Zone or on the lands of private ownership, but without prejudice to the rights of the owners, may be issued by the Treasurer of the Canal Zone upon application made to him. But every person who shall hunt at night between the hours of sunset and sunrise with the aid or use of a lantern, torch, bonfire, or other artificial light, or who shall hunt by the use of a gun or other firearm intended to be discharged by an animal or bird, by means of a spring or trap or other similar mechanical device, shall be guilty of a misdemeanor.

WM. H. TAFT.

THE WHITE HOUSE, September 8, 1909.

[No. 1126.]

Jury Disagrees.

The trial of Secundino Pinedo, a Colombian, charged with murder in the first degree, was held in the court of the Second Judicial Circuit at Empire, before Judge Wesley M. Owen, on Wednesday, September 22. Pinedo was arrested on August 14 for the killing of Manuel Montalvo, a fellow countryman, during an altercation between the two. The case was given to the jury at 3 p. m., on the day of the trial, and at 11 a. m. on the following day the jury reported a disagreement. The case will be taken up again at a later date.

Colon Club Dance.

On account of the reception to be tendered Commissioner and Mrs. Blackburn at Ancon on Saturday evening, October 2, the regular dance of the Colon club will be omitted, no dance being given until October 16.

ROBERT BEVERLY, *Secretary*.

Resolutions of Sympathy.

Resolutions of respect and sympathy on the death of William H. Green, who was drowned at Balboa on August 21, were adopted at meetings held recently by Balboa lodge of Knights of Pythias of Las Cascadas, and by Las Cascadas court, No. 4, Independent Order of Panamanian Kangaroos.

Obituary.

H. C. Ball died at Ancon Hospital on September 21, 1909. He was 52 years old, was married, and had lived on the Isthmus three years, residing at Empire. His body was sent to Pultney, Steuben County, N. Y., on the *Allianca*, which sailed September 27.

A Missing Woman.

The American Consulate General in Panama wishes to be informed of the whereabouts of Miss H. E. Daly, a young American woman, who came to the Canal Zone in March, 1909, to work as a stenographer.

Missing Man.

Charles Kenney, member of Port Huron council, No. 521, Knights of Columbus, is requested to communicate with William J. Ergenzinger, G. K., No. 1371, Empire, C. Z.

Official returns for the British colony of Jamaica show that 1,191 emigrants left that island for Panama and the Canal Zone during the month of July.

GROCERIES.

Amount Consumed by Canal Workers—Methods of Supply and Inspection.

Of the merchandise imported by the commissary during the fiscal year 1909, valued in all at $3,386,906.06, the articles that have been classed as "groceries" were valued at $1,023,658.22. Under this classification are included a large number of edible articles and materials used in cooking, but all cold storage articles such as fresh meats, dairy products, fruits and vegetables are excluded. The chief imports under the classification "groceries" were as follows:

	Pounds.
Cocoa	126,468
Coffee	203,587
Tea	64,400
Salmon in tins	222,192
Preserved fruit in syrup in tins	439,003
Jams, jellies and preserves in glass and tins.	193,586
Meats, canned	437,842
Milk, evaporated and condensed	1,576,880
Tomatoes in tins	506,080
Pork and beans in tins	53,388
Peas and beans in tins	340,234
Other vegetables in tins	474,192
Lard	438,360
Codfish	295,120
Flour	4,809,124

Cereals also form an important class of groceries, and the average monthly sales are as follows:

Rice, Carolina	20 barrels.
Rice, Rangoon	100 tons.
Split peas	125 barrels.
Dried green peas	40 barrels.
Red kidney beans	60 barrels.
Lima beans	40 barrels.
White navy beans	60 barrels.
Corn meal, in bulk	50 barrels.
Corn meal, in case	2,500 pounds.
Hominy	40 cases.
Other cereals	410 cases.

An average sale of sugar for one month is 900 barrels; salt, 500 barrels; vinegar, 50 barrels.

Contracts for groceries are placed quarterly on competitive bids made to standard samples. For instance, the bids on canned goods are made on the basis of the highest grade of tinned goods on the market, and the contractor must furnish a product that will stand a test in the States, on arrival on the Isthmus, and if necessary, after three months in storage on the Isthmus. In general the tinned goods stand the tests well, and only a small proportion is rejected. A few days ago a shipment of 40 cases of tinned peas, sold by the contractor as "sifted" was rejected because the peas, although good, were not of the specified grade. Last week 45 barrels of beans, supposed to be Lima beans, were received. On inspection they were found to be mixed with Algerian beans, which, although wholesome, are thicker, whiter, and of inferior quality to the Lima bean. The whole shipment was rejected.

Under the terms of the contract all goods are delivered on the Isthmus, freight and insurance paid, and all that are rejected are sent back at the contractor's expense. The Government loses nothing by the efforts of contractors to substitute inferior goods, whereas the contractor usually loses both time and money.

The contract for groceries for the present quarter went into effect on September 1. Deliveries are made with a frequency and in amounts large enough to keep a 45 days' supply in store at Cristobal, which is abundant for any emergency, such as a break in the deliveries. The supply of groceries in store is usually worth about $265,000. Much of the foodstuffs is never subjected to the test of three months' storage, as it is consumed before that period has elapsed. The quantity in store will not be materially increased when the new storehouse now under construction is completed, as the Subsistence Department makes a point of putting in a new stock four or five times a year. The groceries will be kept in better condition, however, because the new store will be easier to keep free from ants, roaches, and other insects than the present wooden storehouse. Half of the new storehouse is completed and the whole will be in service in a few weeks. It is two stories high, 200 feet long, and 50 feet wide. The first story is of concrete blocks, with a concrete floor, while the second is of frame construction.

PERSONAL.

Lieut.-Col. William L. Sibert sailed for the States on the *Allianca* on September 27, on his annual leave of absence.

Major Chester Harding and family, and Dr. Lloyd Nolan and wife of Colon Hospital, returned to the Isthmus on the *Allianca*, which arrived at Cristobal on September 22.

Mr. Hiram J. Slifer sailed on the *Turrialba* on September 28, on his annual leave of absence in the States.

Baptismal Service Postponed.

The funeral of H. C. Ball which was held at Ancon on Sunday, September 26, caused a postponement of the baptismal service which was to have been held at the First Baptist Church at Empire on the same date, to Sunday, October 3, at 3 p.m. Mr. Ball was a deacon, trustee, and an energetic worker in the Empire Church.

Red Cross Officials.

During the absence, on leave, from the Isthmus of Lieut.-Col. John L. Phillips, Mr. A. Bruce Minear will act as president, and Major Charles F. Mason as treasurer, of the Canal Zone Branch of the American Red Cross Association.

All remittances of funds belonging to the association should be made payable to Major Mason, whose address is Ancon Hospital.

Baptist Churches and Church Work.

The corner stone of the new Baptist Church at Gatun was laid on Sunday, September 19, the ceremony being performed by H. L. Stuntz and Mrs. J. L. Wise. Rev. C. H. Elliott of Cristobal, Rev. J. L. Wise of Gorgona, and J. C. Foreman of Empire made suitable addresses. The Baptist Church work at Gatun was inaugurated about two years ago under the direction of Rev. J. H. Sobey. A building was assigned the mission by the Chief Engineer in which to hold services, but owing to the demand for laborers' quarters the building had to be given up a few weeks ago. Prior to this time five services were held each week, with encouraging results.

The new Baptist Church building at Colon which is nearing completion, and is a substantial concrete structure, will be capable of seating five hundred people. The work has been under the superintendency of Rev. J. L. Wise, director of the mission, and the Southern Baptist Convention Home Mission Board has been a liberal contributor. Rev. Sobey has been requested to superintend the work there, and has consented, but will still reside at Empire, where he holds Sunday and week night services.

In addition to the regular mission stations, the work is now carried on at Cunette, Bas Obispo, and Chagres, with the assistance of laymen. Rev. Wise of Gorgona, Rev. Loveridge of Culebra, and Rev. Sobey of Empire share the camp work.

Washington Reading Room Club.

The gymnasium of the Washington Reading Room Club, located in Lincoln House at Colon, is to be provided shortly with new equipment, consisting of rings, trapeze and horizontal bars, weights, etc. A basket-ball team was organized some time ago, and the matter of an indoor baseball team is under consideration. The Tabard Inn Library system is used in the reading room, by which an exchange of 75 books is effected every three months, and about 100 books are kept constantly on hand. The club has a membership of about 60, consisting entirely of employes of the Panama Railroad Company. At the last election of officers H. J. Slifer was made honorary president, Joseph Beaumont active president, C. E. Landers vice-president, A. C. Harrigan secretary, P. G. Hoyt treasurer, and F. E. Huck librarian. The club is governed by an executive committee, consisting of the president, as chairman, and four other members, one of whom, the by-laws prescribe, shall be from the office of the General Manager of the railroad company.

Sojourners Lodge, No. 874.

Sojourners Lodge, No. 874, A. F. and A. M., will meet in regular communication on Saturday evening, October 2, 1909. All Master Masons in good standing are invited and will be cordially welcomed. Meetings will also be held for first degree work on October 9, for second degree work on October 23, and third degree work on October 16.

ELI D. SIMS, *R. W. Master.*

Brotherhood of St. Andrew.

A chapter of the Brotherhood of St Andrew has been organized in Trinity Church, Culebra. A corporate communion service will be held on Sunday morning, October 3, at 11 o'clock. All men are cordially invited.

Notice to Kangaroos.

On account of the death of Brother H. C. Ball, of Empire Court, No. 1, the masquerade ball which was to be given at Kangaroo Hall, Empire, on October 2, will be postponed indefinitely.

Concert by I. C. C. Band.

AT HOTEL TIVOLI, ANCON.

Sunday, October 3, 1909, at 7.30 p. m.

PROGRAM.

1 March—*Army and Marine*..................Zehle
2 Selection—*Mary's Lamb*..................Carle
3 *a* Schottische—*Four Little Blackberries*.. O'Conner
  b Tone Poem—*Lilacs*..................Robert
4 Waltz—*Thousand and One Nights*.........Strauss
5 Potpourri of Popular Songs...............Remick
6 Duet—*Miserere from "Il Trovatore"*........Verdi
Messrs. Jennings and Sedwick.
7 Ballet—*Flight of the Birds*..................Rice
8 Overture—*Poet and Peasant*..................Suppe
9 Idyl—*Forge in the Forest*...............Eilenberg
10 March—*The Aviator*......................Fulton

CHAS. E. JENNINGS, *Musical Director.*

The next concert will be given at Cristobal, Wednesday, October 13.

LOST—On tug *M. E. Scully*, on September 12, on trip to Porto Bello, a class pin in gold and dark red enamel, with letters "C. S. N." Finder please return to Chas. L. Persons, Mount Hope Depot, and receive reward.

OFFICIAL CIRCULARS.

Acting Division Engineer, Atlantic Division.

CRISTOBAL, C. Z., September 27, 1909.

CIRCULAR NO. 278:

Effective this date, and during the absence on leave of Lieut.-Col. Wm. L. Sibert, Major Chester Harding will be in charge of the Atlantic Division, as Acting Division Engineer.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Acting General Manager, P. R. R.

PANAMA RAILROAD COMPANY,
COLON, R. P., September 25, 1909.

CIRCULAR NO. 189:

Heads of Departments—Effective September 28, Mr. G. E. Geer will be Acting General Manager during the absence of the General Manager on leave.

HIRAM J. SLIFER, *General Manager.*

Approved:
H. F. HODGES, *Second Vice-president.*

Fire Alarms.

CULEBRA, C. Z., September 23, 1909.

CIRCULAR NO. 277:

In view of the inflammable materials of which Commission buildings are constructed and the liability of small blazes getting beyond control, employes are instructed to turn in an alarm immediately after the discovery of a fire.

H. F. HODGES,
Acting Chairman.

Jurisdiction and Duties of Traveling Engineers.

CULEBRA, C. Z., September 20, 1909.

CIRCULAR NO. 266-B:

1. Traveling engineers, will instruct engineers, firemen and hostlers in all divisions on all matters pertaining to the proper handling and operation of locomotives, and to economy in the use of fuel and oil, riding in cabs whenever possible for this purpose.

2. They will examine engines they ride and will call the engineers' attention to any defect, ascertaining from them whether such defects have been reported.

3. They will promptly notify the Transportation Department of any improper handling or abuse of locomotives, or occurrences by which they have been injured, stating all facts leading up to and concerned therewith, thus assisting the superintendents of transportation, so far as they may be able, in placing the responsibility therefor.

4. When casualties to locomotives have occurred, or any investigations are held relative to the handling of engines, the traveling engineer concerned shall be present and submit any evidence pertinent thereto which may be called for by the Superintendent of Transportation.

5. Traveling engineers will alternate every three months in examining all applicants for the position of locomotive engineer, and decide whether their qualifications and experience, from a mechanical standpoint, are sufficient to warrant their appointment.

6. They will, so far as possible, provide all hostlers for all divisions, hostlers being selected with a view of obtaining men capable of being eventually promoted to engineers.

7. They will visit all engine houses and consult with the foremen of same relative to running repairs of all locomotives, checking over work reports turned in by engineers.

8. They will keep in close touch with master mechanics who repair locomotives, advising them as to the condition of engines in service, the probable date when it will be necessary to place engines in shop, and shall keep in touch with the progress of repairs to engines in shop.

9. They will recommend to the superintendents of transportation when engines should be taken out of service for general repairs, such recommendation to be made after consultation with the master mechanic regarding the amount of work in shops.

10. They will make careful inspection of all engines turned in for repairs, cost of which will exceed $200, and will confer with the master mechanic as to the specific repairs that will be made.

11. They will make careful inspection of all engines turned out of the shops, riding upon same whenever possible during the first few days of operation, and will report to the master mechanic responsible for engine's overhauling all defects either in material or workmanship which may be discovered.

12. Mr. James G. Craig, senior traveling engineer, will cover the Atlantic Division and the engines of the Central Division from Empire suspension bridge north. His headquarters will be Las Cascadas engine house. Mr. Arthur C. Stone, junior traveling engineer, will cover the Pacific Division and engines of the Central Division from Empire suspension bridge south, including engines at the Empire yard. His headquarters will be Pedro Miguel engine house.

H. H. ROUSSEAU,
Assistant to the Chief Engineer.

Approved: H. F. HODGES,
Acting Chairman and Chief Engineer.

Bills for Hospital Service.

Effective October 1, the practice of rendering bills against employes of the Commission or Panama Railroad Company for hospital services to members of their families will be discontinued. At the time a patient is discharged from the hospital an invoice and receipt showing accrued charges to date will be presented to the party responsible therefor, or in his absence, to the patient treated under his authorization. Immediate payment of such bills will not be compulsory, but it is requested that settlement be made on presentation. In case of inability to do so, the responsible party, or the patient, will sign an authorization for deduction of the amount against the employe's wages for the current month. The amount will then be deducted on pay rolls without further notice.

JOHN L. PHILLIPS,
Assistant Chief Sanitary Officer.

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal, and Colon during the week ended September 25, 1909, with supplies for the Isthmian Canal Commission:

Allianca, September 22, from New York, with 350 couplers and knuckles for car repairs; 62 cases electric fuses for stock; 95 tons machinery for Pedro Miguel Locks; 216 coils Manila rope for stock; 20 tons repair parts for locomotives for Porto Bello; 20 towing hooks for Atlantic Division; 180 kegs track bolts for stock; 18 cases safety fuse for stock, and a miscellaneous cargo aggregating 2,500 packages, weighing 420 tons.

Turrialba, from New Orleans, September 24, with 105 barrels fire clay and 600 cases fire brick for stock; 38,000 feet lumber for sand wharf, Balboa; 16 tons castings for car repairs; 20,000 feet lumber for Gatun; 195 cases kerosene oil for stock; 30,000 feet lumber for Central Division; 300 couplers and knuckles for car repairs.

Innisbrook, September 24, from Mobile and Gulfport, 40,120 pounds C. I. washers; 10,528 feet B. M. white oak lumber, and 608 untreated piles for stock; 200 tons pig iron for Gorgona foundry; 10,000 feet B. M. yellow pine lumber for Pacific Division; 17,838 feet B. M. white oak lumber, and 306 creosoted piles for Atlantic Division.

The following vessels arrived at or departed from Balboa during the week ended September 24:

Arrivals—September 18, *Tricolor*, from Puget Sound; September 18, *Lansing*, from Port Harford; September 20, *Loa*, from South ports; September 22, *Calabria*, from Callao (Italian warship); September 23, *Ecuador*, from Guayaquil; September 23, *Acapulco*, from San Francisco; September 24, *Quito*, from intermediate ports.

Departures—September 18, *Salatis*, bound south; September 18, *Lansing*, for Port Harford; September 19, *Arica*, for Guayaquil; September 20, *Limari*, for South ports; September 21, *Chiriqui*, for intermediate ports; September 25, *Pennsylvania*, for San Francisco.

Proposals for Building.

Contract building. Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., October 4, 1909, and then opened, for the erection by contract of a motor car house at Gatun. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $200 when the contract is signed.

R. E. WOOD,
Acting Chief Quartermaster.

Bids for Clearing Canal Prism.

Bids will be received at the office of the Purchasing Agent on the Isthmus, Isthmian Canal Commission, Mount Hope, C. Z., up to 2 p. m., October 5, 1909, at which time they will be opened in public, for the clearing and removing of tall grass, brush, cane, stumps and trees from eight sections of the Canal prism, amounting to approximately 842 acres. The location of these tracts and all information and specifications concerning the clearing of same, may be obtained at the office of the Division Engineer, Empire, Assistant Engineer, San Pablo, or the Purchasing Agent. Work must be commenced by October 20, 1909, and be completed before April 20, 1910. Bids will be received for one or more sections. Each bid must be accompanied by $50 deposit as guaranty that contract will be entered into. The successful bidders must furnish for each section a deposit in the sum of $2 United States currency per acre as a guaranty that the work will be properly performed, deposit to be returned upon satisfactory completion of work. No bids will be received from any United States Government employe. Proposals should be enclosed in sealed envelopes marked "Proposal for clearing Canal prism." The right is reserved to reject any or all bids.

C. NIXON,
Purchasing Agent on the Isthmus.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

The Hearons Sisters Concert Company of New York sailed from the Isthmus for the States on September 27, after having given twelve entertainments which were attended by about 2,500 people.

Through the courtesy of the Bureau of American Republics at Washington the libraries have received valuable books on Brazil and Peru, and a copy of the Bureau's bulletin which contains an article on the natural resources of the Republic of Panama.

CULEBRA.

The results of the bowling tournament games at Culebra on September 22 are as follows:

Culebra.	*First.*	*Second.*	*Third.*	*Total.*
Lamster	164	185	162	511
Hayes	123	148	146	417
Winters	161	154	164	479
Coffin	144	153	118	415
Dougherty	180	158	138	476
Total	772	798	728	2,398
Empire.				
Brown	180	153	150	483
Potter	176	169	148	493
Bardelson	142	181	197	520
Hinckley	120	161	133	414
Huson	187	125	183	495
Total	805	789	811	2,405

EMPIRE.

The smoker given at the clubhouse at Empire on Monday night, September 20, was well attended. The following program was rendered:

Selection, Empire mandolin club; song, George R. Herring; indian club exhibition, George R. Kramer; clarinet solo, John Gray; selection, Empire Y. M. C. A. quartet; character sketches in crayon, Prof. Salberg; vocal solo, W. H. Walsh; selection, mandolin club; parallel bars, Miller, Kramer, Ludwig; selection, quartet; hand balancing and tumbling, Miller and Wheeler; impromptu remarks, various speakers.

GORGONA.

At the informal smoker given on Monday night, September 20, an impromptu program was the feature. Among the numbers were music by "House 99 Band;" songs by Messrs. Wright and Charnley, and dancing by Messrs. Robtoy and McRae. Another smoker will be held on Saturday night, October 9. E. Emery, W. J. Wright and T. Charnley are the committee in charge of preparations.

The moving picture show on Saturday night, September 25 was so well attended and gave such general pleasure that a similar entertainment will be given on Saturday, October 2.

The sacred concert given Sunday night by the Hearons Sisters was attended by an audience that filled every seat in the hall. This was the third concert by the company in Gorgona, and each time the hall was filled.

The bowling games in the tournament series on Saturday night, September 25, resulted as follows:

Cristobal.	*First.*	*Second.*	*Third.*	*Total.*
Barte	166	180	182	528
Barlow	135	153	164	452
Louch	147	187	190	524
Strong	160	178	148	486
Bullard	162	186	138	486
Total	770	884	822	2,476
Gorgona.				
Otis	162	175	148	485
Buchanan	193	197	126	516
L. Roper	120	144	174	438
King	173	128	181	482
Sexton	150	153	165	468
Total	798	797	794	2,389

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., September 29, 1909.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Aarons, Mr. and Mrs. H.
Austin, C. B.
Bain, H. G., or W. C.
Baptiste, C. F.
Bartlett, Emir C.
Binion, Miss Joe
Cait, Peter
Case, Elmer Paul
Decker, Rev. William
Decker, Mrs. Wm. H.
Drayton, Allan (2)
Elliott, C. H. (2d class)
Ellison, Charles F.
Gilkey, E. L.
Gilling, George
Graham, Alex
Harris, Robert J., Jr.
Jiamona, Rev. M. A.
Lewis, Edward
Martin, Capt. J.
McLeod, J.
Naismith, Albert
Nicholson, George
Richerson, Johnnie
Sweal, W. Perry
Thompson, A. R.
Walling, C.
Weber, Chas. B.
Whitehead, Joseph
Winnie, N. E.
Woodsum, D. M.
Zelinski, William

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning September 25:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Steak	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	27
Chops	per lb	29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	†22
Cutlets	per lb	†26
Pork cuts	per lb	22
Beef—Suet	per lb	4
Soup	per lb	6
Stew	per lb	10
Corned	per lb., 12, 14,	16
Chuck roast	per lb	14
Pot roast	per lb	16
Rib-roast, second cut (not under 3½ pounds)	per lb	19
Rib-roast, first cut (not under 3 pounds)	per lb	21
Sirloin roast	per lb	22
Rump roast	per lb	22
Porterhouse roast	per lb	22
Steak, Chuck	per lb	15
Round	per lb	16
Rib	per lb	21
Sirloin	per lb	22
Porterhouse	per lb	22
Rump	per lb	22
Tenderloin	per lb	27

MISCELLANEOUS.

Livers—Beef	per lb	11½
Calf	each	65
Shad roes	pair	40
Sausage—Pork	per lb	17
Bologna	per lb	17
Frankfurter	per lb	17
Leberwurst	per lb	17
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	30
Oysters	keg	1.00
Eggs, fresh	dozen	32
Bluefish	per lb	15

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls,	each 90,	1.00
Ducks, fatted	each	1.30
medium weight	each	90
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese, fatted, about 10 pounds	each	2.00
12 pounds	each	2.30

CURED AND PICKLED MEATS.

Bacon—Breakfast, whole piece	per lb	27
Breakfast, sliced	per lb	29
Ham—Sugar-cured, sliced	per lb	§25
One-half, for boiling	per lb	§21
Westphalia	per lb	45
Hocks	per lb	‡8
Sugar cured	per lb	20
Beef, salt, family	per lb	10
Pork, salt	per lb	15
Ham, boiled	per lb	28
Ox tongues	each	1.00
Pigs' feet	per lb	14
tongues	per lb	16

DAIRY PRODUCTS.

Butter—Prints, prime quality	per lb	42
Cheese—Roquefort	per lb	45
Philadelphia Cream	each	20
Young America	per lb	22
Swiss	per lb	31
Edam	each	1.05
Camembert	per lb	28
Neufchatel	each	6
Gouda	per lb	34
Parmesan	bottle	20
French cheese in tins—Camembert, Brie, Neufchatel	1-lb tin	20
Milk, Briarcliff	bottle	**25

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	10
Lettuce	per lb	15
Potatoes, white, old	per lb	3¼
sweet	per lb	2½
Onions	per lb	3
Squash, Hubbard	per lb	5
Yams	per lb	3½
Turnips	per lb	3½
Carrots	per lb	*4
Beets	per lb	5
Potatoes, new	per lb	3½
Cauliflower	per lb	6
Cucumbers	per lb	4
Tomatoes	per lb	5
Lemons	dozen	24
Grapes	per lb	10
Limes	per 100	80
Watermelons	each	40
Peaches	per lb	8
Cantaloupes	each	8
Blueberries	box	18
Cabbage	per lb	4½
Apples	per lb	*5
Oranges	dozen	12
Grapefruit	each	4
Plums	per lb	*10

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Rainfall, September 1 to 25, 1909, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

Stations.	Maximum in one day.	Date.	Total for period.
Atlantic Division—			
Cristobal	2.36	12	14.02
Brazos Brook	1.45	7	8.59
Gatun	2.88	10	9.13
Bohio	1.53	13	7.63
Central Division—			
Tabernilla	2.54	11	9.88
San Pablo	2.70	11	9.90
Gorgona	1.41	2	7.36
Gamboa	1.44	7	7.12
Empire	1.78	13	6.00
Camacho	1.86	14	10.07
Culebra	1.66	13	6.44
Pacific Division—			
Rio Grande	1.79	18	7.41
Pedro Miguel	1.75	18	6.70
Balboa	.85	14	3.34
Ancon	.92	18	2.76
Atlantic Coast—			
Porto Bello	2.16	13	10.26
Nombre de Dios, (Sept. 1 to 18.)	1.15	7	5.80
Upper Chagres—			
El Vigia	2.35	5	9.50
Alhajuela	1.71	13	6.24

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight Saturday, September 25, 1909:

	Stations.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft.	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Sept. 19	127.4	93.9	49.3	8.4	4.3	3.6
Monday, Sept. 20	128.6	94.7	49.8	8.2	3.6	2.9
Tuesday, Sept. 21	127.2	93.9	49.2	8.1	3.6	2.8
Wed'esday, Sept. 22	126.8	93.5	48.8	6.6	2.7	2.1
Thursday, Sept 23	127.6	93.7	48.4	6.7	2.3	2.0
Friday, Sept. 24	127.5	94.1	48.9	6.2	2.3	2.0
Saturday, Sept. 25.	126.5	93.3	48.4	5.6	2.2	1.8

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending October 6, 1909 (75th meridian time):

Date.	Low.	High.	Low.	High.	Low.
	A. M.	A. M.	A. M.	P. M.	P. M.
Sept. 30	....	3.52	10.10	4.16	10.29
Oct. 1	....	4.35	10.53	4.59	11.13
Oct. 2	....	5.18	11.38	5.43	11.58
			P. M.		
Oct. 3	....	6.01	12.23	6.28	....
Oct. 4	12.45	6.47	1.12	7.16	....
Oct. 5	1.33	7.36	2.03	8.10	....
Oct. 6	2.31	8.31	3.03	9.13	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO COLON.

Panama	P. R. R.	Monday	Sept. 27
Cristobal	P. R. R.	Thursday	Sept. 30
Magdalena	R.-M.	Saturday	Oct. 2
Advance	P. R. R.	Saturday	Oct. 2
Allianca	P. R. R.	Friday	Oct. 8
Prinz Joachim	H.-A.	Saturday	Oct. 9
Colon	P. R. R.	Thursday	Oct. 14
Ancon	P. R. R.	Friday	Oct. 15
Clyde	R.-M.	Saturday	Oct. 16
Panama	P. R. R.	Thursday	Oct. 21
Prinz Aug. Wilhelm	H.-A.	Saturday	Oct. 23
Allianca	P. R. R.	Tuesday	Oct. 26
Thames	R.-M.	Saturday	Oct. 30
Prinz Joachim	H.-A.	Saturday	Nov. 6
Atrato	R.-M.	Saturday	Nov. 13
Prinz Aug. Wilhelm	H.-A.	Saturday	Nov. 20
Tagus	R.-M.	Saturday	Nov. 27
Prinz Joachim	H.-A.	Saturday	Dec. 4

Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

COLON TO NEW YORK.

Colon	P. R. R.	Saturday	Oct. 2
Ancon	P. R. R.	Wednesday	Oct. 6
Clyde	R.-M.	Wednesday	Oct. 6
Panama	P. R. R.	Friday	Oct. 8
Prinz Aug. Wilhelm	H.-A.	Tuesday	Oct. 12
Advance	P. R. R.	Thursday	Oct. 14
Cristobal	P. R. R.	Friday	Oct. 15
Allianca	P. R. R.	Tuesday	Oct. 19
Thames	R.-M.	Wednesday	Oct. 20
Colon	P. R. R.	Monday	Oct. 25
Prinz Joachim	H.-A.	Tuesday	Oct. 26
Ancon	P. R. R.	Thursday	Oct. 28
Panama	P. R. R.	Tuesday	Nov. 2
Allianca	P. R. R.	Monday	Nov. 8
Prinz Aug. Wilhelm	H.-A.	Tuesday	Nov. 9
Prinz Joachim	H.-A.	Tuesday	Nov. 23
Prinz Aug. Wilhelm	H.-A.	Tuesday	Dec. 7

NEW ORLEANS TO COLON.

Abangarez	U.F.C.	Saturday	Sept. 25
Atenas	U.F.C.	Saturday	Oct. 2
Turrialba	U.F.C.	Saturday	Oct. 9
Abangarez	U.F.C.	Saturday	Oct. 16
Atenas	U.F.C.	Saturday	Oct. 23
Turrialba	U.F.C.	Saturday	Oct. 30
Abangarez	U.F.C.	Saturday	Nov. 6
Atenas	U.F.C.	Saturday	Nov. 13
Turrialba	U.F.C.	Saturday	Nov. 20
Abangarez	U.F.C.	Saturday	Nov. 27

COLON TO NEW ORLEANS.

Abangarez	U.F.C.	Tuesday	Oct. 5
Atenas	U.F.C.	Tuesday	Oct. 12
Turrialba	U.F.C.	Tuesday	Oct. 19
Abangarez	U.F.C.	Tuesday	Oct. 26
Atenas	U.F.C.	Tuesday	Nov. 2
Turrialba	U.F.C.	Tuesday	Nov. 9
Abangarez	U.F.C.	Tuesday	Nov. 16
Atenas	U.F.C.	Tuesday	Nov. 23
Turrialba	U.F.C.	Tuesday	Nov. 30
Abangarez	U.F.C.	Tuesday	Dec. 7

COLON TO BARBADOS, CALLING AT TRINIDAD.

Magdalena	R.-M.	Tuesday	Oct. 12

Sailings of the French line (Cie. Générale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Tampican* for New Orleans, via Kingston, Ja., on or about September 30.

The Panama railroad steamships sail at 3 p. m. from dock at Cristobal direct to New York.

A ship of the United Fruit Company's line sails from the dock at Colon, at 3 p. m., Tuesday of each week.

The steamers *David* of the National Navigation Company, and the *Taboga* of the Pacific Steam Navigation Company, leave Panama, for David, province of Chiriqui, and intermediate points, the first and third weeks of each month.

FOUND.—On Dock No. 11, Cristobal, after the arrival of the *Allianca* on September 21, a manicure set, which the owner can secure by calling at the Panama railroad office in Colon and describing the property.

CANAL RECORD

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The Canal Record

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THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Gatun Locks.

Notwithstanding the delays incident to the inferior workmanship of some of the machinery furnished by contract in the States, the laying of concrete in Gatun Locks is making steady progress. This work was begun on August 24, and the amount of concrete placed each week from that time until the close of work on October 2, was as follows:

	Cubic Yards.
August 28	732
September 4	1,634
September 11	1,742
September 18	2,598
September 25	3,786
October 2	3,210

The laying of concrete continues in the upper lock above the intermediate gate. Four channeling machines are at work making trenches for placing lateral culverts in the upper lock below the intermediate gate, and two steam shovels are clearing away the rock in front of the concrete gangs.

A barge load of sand is delivered daily from Nombre de Dios, and the quality is better than heretofore due to the fact that some of the clay is washed out before the sand is loaded on the barges. The rock deliveries keep well ahead of the amount of stone required for the concrete. On an average, about one-third of the automatic cars on the railroad from the material storage to the concrete mixers are running each day. The head tower of the cableway which collapsed recently is being repaired and the other three head towers are being reinforced with concrete from the concrete counterweight to the platform on which the machinery is erected. On an average, 500 cubic yards of concrete are placed each day.

Additional Fuel Oil Installations.

The two locomotive type boilers at the Cucaracha pumping station at Rio Grande are being equipped for the use of crude oil as fuel, and two tanks, of 240 barrels capacity each, are being erected to store oil. The three boilers in the pumping station at Mt. Zion, which supplies the high level service at Culebra, will be taken out and two second-hand Scotch marine boilers equipped for oil burning will be installed. Two oil tanks with a capacity of 240 barrels are being erected for this station also. Each of these pumping plants will consume about 800 barrels of oil per month, and the economy resulting from the use of oil will pay for the installation within a year.

Operations at Pedro Miguel Locks.

During the month of September, 2,369½ cubic yards of concrete were placed in the lower guide wall at the Pedro Miguel Locks, an average of 94.8 cubic yards for each of the 25 working days. The auxiliary concrete mixer in the west chamber was completed and put into operation on September 23, and since that time the auxiliary and the portable mixers have been kept at work. With the installation of additional auxiliary equipment to facilitate the handling of the concrete, which is in progress, a normal daily output of about 400 cubic yards is expected. At the end of the month one of the cross culvert forms had been placed in position, and work was in progress on others.

The excavation in the east chamber of the locks is about down to grade, and the work in the chamber at present is confined to removing the material carried in by the recent slide.

The storage trestles in the upper forebay are completed and ready for use. The regular excavation work in the forebay was continued during the month. A sump will be created, and a pumping plant established near the forebay to keep the water from flowing into the lock chambers during heavy rains.

Ancon Rock Crushing Plant.

The Ancon quarry rock crushing plant will probably be completed and ready for operation before the end of October. The concrete work, with the exception of the foundations for the motors, is practically finished; the belt conveyor shed has been erected and part of the conveyor apparatus installed. The four No. 6 rock crushing machines are in position, and the large No. 12 crusher is being placed. A frame superstructure will be built to enclose the crusher machinery and the motors which are to drive it. It will consist of a main building 44 feet square, which will afford shelter for the No. 12 machine; a second building 22 feet wide for the four secondary crushers, and a still smaller building 10 feet wide, which will protect four of the motors.

The motors, seven in number, consist of one of 750-h. p., which will operate the main crusher, and will be placed at one side of it; four of 250-h. p. each, which will drive the four smaller crushers and will be placed directly below them, and two motors of 30-h. p. each, which will be located over the storage bin, one at each end, to drive the conveyor apparatus.

The stripping operations have been steadily continued, and a considerable portion of the rock face has been exposed. The switchback is completed, and work on the yard tracks will be finished inside of another week.

Work on the sand dock and storage bin at Balboa was continued during September, and one of the three cranes to be used in unloading sand from barges is nearly erected.

Consumption of Fuel Oil.

The amount of fuel oil used by the various departments and divisions during July and August was as follows:

	BARRELS.	
	July.	August.
Public Works	182	200
Motive Power and Machinery	20,645	22,489
Atlantic Division	1,664	2,000
Central Division	1,690	1,650
Pacific Division	7,293	7,418
Sanitation	1,028	1,240
Panama railroad	15,503	8,804
Total	48,005	43,801

When the power plants at Gatun and Miraflores begin to use oil as fuel the monthly consumption will probably amount to nearly 60,000 barrels, the quantity agreed upon in the contract with the Union Oil Company as the greatest amount that must be supplied at the rate of $1.10 a barrel.

Effort to Avoid Overtime Work.

In an effort to decrease the amount of overtime earned on the Canal work, the Acting Chairman and Chief Engineer has called the attention of the Division Engineers to the following statement of overtime in August:

DIVISION.	Cost of overtime.	Per cent of total overtime.
Atlantic	$6,755.24	20
Pacific	4,204.21	12
Central	18,879.45	56
Mechanical	3,806,91	12
Total	$33,645.81	100

Assuming that the overtime for August was a fair average for the entire year, in order to accomplish work of a labor value of $269,000 at standard rates of pay, the Commission is paying $404,000, or a bonus of $135,000 a year. It is recognized that it is impossible to eliminate this extra pay time. With study and attention, however, it is believed that it can be reduced. In any case the extra cost of overtime should be taken into consideration by those ordering or authorizing it, and where the conditions through which it arises are constantly recurring, a remedy should be applied so far as practicable by (1) increasing the day

NOTES OF PROGRESS.

(*Continued.*)

force, (2) putting on a second shift of men, or (3) putting men on a monthly basis.

A provision of the Sundry Civil Act of March 4, 1909, makes it illegal to pay employes on a monthly basis for overtime work. Only men employed by the hour are paid for working more than the regular number of hours, and their pay is governed by the following rule of the Commission:

Resolved, That, effective September 1, 1909, all hourly employes who are citizens of the United States will be paid time and one-half for work over the eight-hour day; all other hourly employes will be paid time and one-half for work over ten hours in one day. All hourly employes will be paid time and one-half for all work on Sundays and holidays.

Attention is called to the fact that the length of the working day for mechanics and laborers, as now established by the United States Statutes, is not changed by the above resolution. It is merely intended that when alien mechanics are required to perform emergency work after the close of the eight-hour day, they shall be paid straight time until they have worked ten hours; and that laborers, when required to work more than nine hours per day, shall not be paid time and one-half until after ten hours' work.

Pumps for Lock Pits.

The lock pits at Pedro Miguel and Miraflores will be drained by pumping during the construction of the locks. Three 6-inch centrifugal pumps for this purpose have arrived on the Isthmus, and three 12-inch centrifugal pumps are expected this week.

Testing Ancon Rock and Chamé Sand.

A cubic yard of rock from Ancon quarry, and a similar amount of sand from the deposits at Point Chamé were shipped on the *Colon* on October 2 to the Structural Materials Division of the United States Geological Survey at Pittsburg, Pa., where the samples will be tested in connection with the use of this rock and stone in the concrete work at the Pedro Miguel Locks. The samples were forwarded at the request of H. M. Wilson, Chief Engineer of the Technological branch of the Geological Survey, who had similar tests made some time ago of the rock at the Porto Bello quarry, and sand from Nombre de Dios and Quango beach. In these tests the sand from Nombre de Dios was pronounced superior to that from Quango beach.

Work at Balboa Shipways.

The work of assembling three of the four barges received from the States some time ago is in progress at the Balboa shipways. One of the barges is nearly ready to be launched, while two more are well under way. No work has yet been done on the fourth barge. The old French barge recovered from the Chagres River at San Pablo and reconstructed at Balboa for use as a wrecking crane is about ready to be slid off the ways.

Gas and Whistling Buoy at Porto Bello.

It is the intention of the Canal Commission to locate, on or about November 1, 1909, at Salmedina Bank, about one-fourth mile off Green Islet, at the entrance to Porto Bello Harbor, an acetylene gas and whistling buoy. This buoy will show a fixed white light at an elevation of 15 feet above the water surface.

This information has been furnished to all interested officials of the Panama railroad, the Republic of Panama, the Secretary of War, the Secretary of the Navy, the Navigation Bureau, the Hydrographic Office, Coast and Geodetic Survey, Chief of Engineers, United States Army, the State Department, Department of Commerce and Labor, the International Bureau of American Republics, the admiralty offices of the various maritime foreign nations, and others interested.

Accident to Rock Breaker.

An accident occurred to the rock breaker *Vulcan*, on October 2, when working in the rock shoal off the Panama railroad wharf at Balboa, which caused a suspension of operations for seven days. The huge cutter, or ram, used in breaking up the channel bottom glanced off the edge of the rock ledge and sank into the mud to a depth of 60 feet. After grappling for five days the ram was finally secured and brought to the surface, and on October 9, work was again resumed.

Shipment of Native Lumber.

A second shipment of native lumber on the order given some time ago by the Isthmian Canal Commission's local purchasing agent, was received from the Bayano River Lumber Company September 22 and forwarded to Gorgona shops, where it will be tested in the manufacture of wood parts for cars and locomotives. The shipment consisted of 6,000 feet of espave, 2¾ x 8 x 10, about 1,000 feet of alcovius colorvie, and 400 feet of colorvie. The total amount received to date is about 13,400 feet. The first shipment was sent to Empire shops, and a part of it has been worked up there in the manufacture of wood parts for steam shovels. Some of this wood was so hard that in working up five or six blocks, the teeth on the saws were dulled. Its efficiency has not yet been determined, as the material has been in use only a short time.

New Buildings at Gatun.

Advertisements are being prepared for the construction of the Commission clubhouse at Gatun. The only important change in the plans since the details were published in THE CANAL RECORD of July 7 is that two double bowling alleys, four alleys in all, are to be built instead of two alleys as was at first planned. The limit of cost within which the building must be erected remains at $25,000. Material will be furnished by the Commission, and the contractor will merely erect the building.

Authority has been granted for the construction of a type-27 house for the keeper of the Agua Clara reservoir, which is to supply water to Gatun. The work will be done by contract.

Pacific Division Sand Operations.

A dredge was sent to Point Chamé twice during September, and a total of 5,727 cubic yards of sand were removed and transported in barges to the sand dock at Balboa, from where it was forwarded to the works at Gatun and Pedro Miguel. An average of 13 dump car loads of sand a day is being transported to Gatun, where the Chamé sand is to be used in the concrete for facings, etc. The only time lost in dredging sand at Point Chamé is that consumed in moving the dredge back and forth. The trip usually takes two days, the dredge filling all the barges available, and afterwards returning to its regular work in the Canal channel. In taking out sand at Point Chamé a considerable quantity of water is removed with it, which collects in pockets and remains in the sand even after it is unloaded at the sand dock. To avoid this it is proposed to use a small centrifugal pump to get rid of the water when the sand is being loaded.

Moveable Towers at Gatun.

Materials for the twelve moveable towers, which will be used in holding the plates of the forms for the face of the walls of Gatun Locks, have arrived at Cristobal, and delivery will be completed by a shipment to be made from Baltimore on October 15.

Changes at Gorgona and Empire Shops.

The transfer of Empire shops from the Mechanical Division to the Central Division, for the repair of all steam shovels and the manufacture and repair of steam shovel parts, was effected on October 1. In addition to the force already maintained by the Central Division at its field repair shop at Cunette, near Empire, the following force has been transferred from the Mechanical Division and will remain at the Empire shops:

One general foreman, 5 foremen, 1 assistant to foreman, 2 draftsmen, 1 shop electrician, 84 machinists, 21 boilermakers, 18 blacksmiths, 2 electric crane operators, 9 carpenters, 1 pipefitter, 2 machinists' helpers.

For the present the headquarters of the Superintendent of Motive Power and Machinery, of the Mechanical Engineer, and the boiler inspector, will remain at Culebra, but the office and drafting forces will be transferred to Gorgona shops, as soon as the new building being erected there for their accommodation is completed. The approved organization of Gorgona shops, under the Electrical Engineer and Master Mechanic, provides at present for 652 gold employes and 980 silver employes, in all 1,632 men, distributed as follows:

Office Force—Chief clerk and 25 men, chief draftsman and 15 men, electrical accountant.

Car and Foundry Department—General foreman of the car and foundry department and 533 men. To this department has been added the steel car repair work, with 112 men transferred from Empire shops.

Electrical Subdivision—Foreman of construction, Colon to Balboa, and 121 men.

Locomotive Department—General foreman and 388 men. This department includes the machine and erecting shop, pipe and copper shop, boiler shop, blacksmith shop, paint shop, power plant, and night force.

Engine Houses and Air Compressors—Superintendent of engine houses and air compressor plants at outside points, and 451 men. The former master mechanic at Empire shops has been assigned to this work. He has under his direction the hostling at Empire, Bas Obispo, and Balboa; the engine house and repair shops at San Pablo and Caimito, Tabernilla, and Las Cascadas; the car shop, engine house, coal chute, and cable splicing forces at Pedro Miguel; the car inspection and repairing at Balboa; the air compressors at Rio Grande, Empire, Las Cascadas; the foreman mason, and the foreman of the air pipe lines.

Master Car Builder—The former master car builder at Empire shops will have under him the field force engaged in car repairs at Las Cascadas, Bas Obispo and in Culebra Cut, in all 68 men.

The foreman in charge of the scrapping of old French materials will report direct to the Electrical Engineer and Master Mechanic of Gorgona shops.

LOST—A white opera cloak at dance at Hotel Tivoli October 2, from ladies' cloakroom. If the lady who took this cloak in mistake for her own, will return it to the management of the Tivoli, she can secure her cloak in exchange.

HEAVY RAIN IN CULEBRA CUT.

First Thorough Test of the Drainage System—Effect Upon Excavation.

With the exception of the storm of December 3, 1906, when 6.15 inches of rain fell in 24 hours, the heaviest shower ever recorded at Empire occurred between 12 o'clock noon and 5 o'clock in the afternoon of October 1. At other points along Culebra Cut the rain was also heavy, but the greatest precipitation was at Empire. The rainfall was largest between noon and 1 o'clock, but throughout the afternoon it continued with such severity as to seriously hamper the work. Flooded pits, railroad tracks under water, and delay in serving the shovels with cars were the principal difficulties in the way of effective work. The rain gauges at both ends of the Cut and at two intermediate points registered as follows:

STATIONS.	12 m. to 1 p. m.	12 m. to 5 p. m.
	Inches.	*Inches.*
Gamboa	2.38	3.29
Empire	3.52	4.52
Rio Grande	1.58	2.25
Pedro Miguel	2.66	3.34

This shower afforded the first thorough test of the recently completed drainage system of Culebra Cut. The system divides the Cut into two slopes with the summit at present near Empire. All the water that collects between the summit and the Pacific end of the Cut at Pedro Miguel flows through the ditch in the center, and in a diversion ditch around the Pedro Miguel lock site into the Rio Grande. All that collects between the summit and the Atlantic end of the Cut at Bas Obispo flows into a sump at Bas Obispo and is raised over a dike into the Chagres River by three 22-inch pumps. On this slope the Obispo and Camacho diversion canals, on either side of the Cut, keep the water from the adjacent hills from flowing into the prism.

After the shower the water in the sump at Bas Obispo stood at 51 feet above sea level, higher than the water in the Chagres River at that time. The pumps were flooded, all the steam shovels in that part of the work were out of commission, and viewed from the banks above the excavation pits, the situation appeared one that it would require days to clear up. The 20-inch flood gates above the level of the river were opened, and the water was thus lowered so that the pumps could be operated. All night long the three pumps poured their capacity streams, 15,000 gallons per minute, into the river. By noon of the day following the shower, the steam shovels at Bas Obispo were at work.

As soon as the heaviest part of the shower was over the Division Engineer and Assistant Division Engineer of the Central Division made an inspection of the diversion channels. They were running about half full and carrying all the water that poured into them from a hundred small streams draining the nearby hills. No gauging station has been established on the diversions, but from the fact that the Obispo Diversion was built to carry 6,000 cubic feet of water per second and that it was half full, it is estimated that 3,000 cubic feet per second were flowing through the channel immediately after the storm.

The rain gauge at Rio Grande shows the precipitation for the vicinity of Cucaracha slide on the Pacific slope of Culebra Cut. Apparently the rain had no effect on the slide as a whole, but it sluiced loose clay from the surface of the slowly moving mass down around the tracks of a steam shovel that was working on one of the higher levels or benches. At a smaller slide, opposite Culebra, another shovel was caught in flowing mud in much the same way. One of these shovels was ready for service on the day after the shower but the other has not yet been gotten out.

Forty steam shovels were at work when the shower began—eight in the Bas Obispo District, 17 at Empire, and 15 at Culebra. They were under steam about 310 hours, were kept from working by flooded pits about 36 hours, and were waiting for cars about 46 hours. The total delay on account of the storm was therefore about 80 hours, the largest part of the delay in waiting for cars being due to the rain and to flooded tracks. When the heaviest part of the rain was over the shovels resumed work, and indeed when the Cut was obscured by the sheet of falling water the spoil trains could be heard picking their way up to the shovels and starting for the run to the dumps.

At 5 o'clock that evening the blasting in front of the shovels began as usual. The next morning the Cut was fairly free of water, except for a small section at Bas Obispo. The effect of the heavy rain upon operations may be seen from the following statement of the yardage on the day before the rain, the day of the shower, and the day after in Culebra Cut proper:

	Yards.
September 30	47,693
October 1	36,890
October 2	39,000

Acting Depot Quartermaster.

During the absence on leave of Capt. C. Nixon, Depot Quartermaster, Mount Hope, and until further orders, Mr. C. H. Mann, chief clerk of the Quartermaster's Department, will act as Depot Quartermaster. He is authorized to receive and receipt for supplies of the Isthmian Canal Commission consigned to Maj. C. A. Devol, or to the Chief Quartermaster, Isthmian Canal Commission, to accomplish bills of lading, to certify invoices for payment as to quantity and quality of supplies shown on such invoices, and in general, to perform such duties as properly belong to the position of Depot Quartermaster.

R. E. WOOD,
Acting Chief Quartermaster.

Culebra, C. Z., September 30, 1909.

Bids for Old Iron and Steel Rejected.

Nineteen bids for the old iron and steel, mostly French material, which the Commission desires to sell, were opened at the Washington office on September 16. The bids were analyzed and canvassed by the Chairman and Chief Engineer, and after consultation with the Secretary of War, all of them were rejected.

To Visit the Interior.

Col. Wm. C. Gorgas, Chief Sanitary Officer, will leave this week for a trip to Santiago de Veraguas, Panama, the capital of the Province of Veraguas, to investigate the advantages afforded by Santiago as a place where Canal employes can spend their vacation. Santiago is a town of between 3,000 and 4,000 population located near the Sierra de Veraguas mountains, one peak of which, Mount Santiago, rises to a height of 9,275 feet. The place is about 140 miles distant from Panama and can be reached by steamer to Agua Dulce, or to Puerto Mutis, and thence by wagon road to Santiago. There is a fairly good wagon road, forty miles long, from Agua Dulce to Santiago.

Sailing of the Ancon.

The Panama Railroad steamer *Ancon* arrived at Cristobal on October 4, and, after discharging her cargo of cement and miscellaneous supplies, will leave for New York on October 10.

Applications for Family Quarters.

The following is a list of applications for family quarters on file October 1, 1909:

LOCATION.	List No. 1.	List No. 2.
Ancon	4	5
Ancon Hospital	......	2
Balboa	3	41
Bas Obispo	6	5
Corozal	2	3
Cristobal	8	124
Culebra	3	3
Empire	......	19
Gatun	42	68
Gorgona	3	35
Las Cascadas	4	5
Miraflores	......	1
Paraiso	......	11
Pedro Miguel	......	2
Porto Bello	......	1
Tabernilla	2	14
Total	77	339

Applicants on the No. 1 List are employes who entered the service prior to January 1, 1908, and they are given prior consideration. The number of applications on the No. 2 List is steadily increasing, while the applications on the No. 1 List show a tendency to decrease in number as seen from the following statement:

MONTH.	List No. 1.	List No. 2.
May	85	249
June	94	281
July	115	305
August	82	332
September	77	339

Commission Freight on Panama Railroad.

The Board appointed by the Chairman to make an estimate of the actual cost to the Panama railroad of handling freight for the Commission, for the period of one year from October 1, has compiled the following estimate of tonnage handled during the year ended August 31:

Department or Division.	*Tons.*
Sanitation	4,000
Civil Administration	5,000
Atlantic	125,000
Central	275,000
Pacific	90,000
Subsistence	300
Quartermaster's	75,000
Motive Power and Machinery	7,000
Relocation Panama railroad	30,000
Chief Engineer's office	250
Disbursements	40
Examination of Accounts	60
All other	140
Total	611,790

Name of Tug Changed.

The Acting General Manager of the Panama railroad has received notice from the New York office of the Company that the Commissioner of Navigation of the Department of Commerce and Labor, has authorized the changing of the name of the Panama railroad tug *Cristobal* to *Phoenix*, which will be done accordingly.

DRY FILL FOR GATUN DAM.

Report of the Board Appointed to Consider Proportion of Charges Approved.

The Board appointed by the Chairman and Chief Engineer, on August 26, to consider the proper proportion of charges to be made to the Atlantic Division for spoil furnished by the Central Division for use in the construction of the Gatun Dam, has submitted the following report, and the recommendations have been approved:

"From the vicinity of Bohio, there are about 180,000 cubic yards of material left to be hauled and placed in the Gatun Dam. From experience with similar steam shovel work in the Central Division, and with the task work in the same locality, it is found that this work costs from 30 to 35 cents per cubic yard, and that the material being handled under the same management and hauled to Gatun Dam has been costing 40 cents per cubic yard. The Board is, therefore, of the opinion that the Gatun Dam should credit the Central Division at the rate of 7½ cents per cubic yard for all material hauled from the vicinity of Bohio to Gatun, which will be, as mentioned above, approximately 180,000 cubic yards.

"The proportion of charges to be borne by the Atlantic Division for material hauled from the Culebra Cut is rather difficult to arrive at for the following reasons:

"The present supply of power and car equipment of the Central Division is barely sufficient to keep the shovels supplied in the Cut, with the maximum haul to Tabernilla. It has been proven repeatedly that trains hauling from the Cut to Gatun can make about one trip per day, while those hauling to Tabernilla make two trips per day and those hauling to the relocation two and three trips per day. Therefore, the output is necessarily diminished a certain amount on account of the increased haul to Gatun. At the same time the demand and supply of material for Gatun is an intermittent quantity, and, in order not to decrease the output of the Central Division, dumps must be maintained in such shape so as to be able to handle the entire output of the shovels on any one day. The Central Division has, therefore, been unable to make any cut up to date in its force on account of material sent to the Gatun Dam from the Cut.

"The average charges made against the Gatun Dam for Bas Obispo rock for the period of 17 months from March, 1908, to August, 1909, have been 10.66 cents per cubic yard. These charges, however, have been the bare cost of train crews and proper proportion of maintenance of equipment expense, and have not taken into account the extra cost to the Central Division resulting from a decreased output from its steam shovels.

"For these reasons, chiefly, the Board is of the opinion that the Atlantic Division should credit the Central Division with a certain amount per yard for material delivered to the Gatun Dam from the Culebra Cut.

"It is a difficult matter to arrive at just what this amount should be, but the opinion of the Board is that 10 cents per cubic yard is a fair and just compensation for the Central Division. It has been evident in the past that a great deal of delay to Central Division trains at the Gatun Dam was unnecessary and that two hours is an ample and fair time, from the time a loaded train reports at Tiger Hill until it reaches Tiger Hill empty. Any train consuming more than two hours in this vicinity shall be paid for at the rate of $9 per hour for all time over two hours. This is to be a demurrage and a penalty for not handling trains promptly, and to be an additional charge to the freight rates of 7½ and 10 cents per cubic yard, which are mentioned above."

Recreation Building at Corozal.

The contract for erecting a recreation pavilion at Corozal has been let to James A. Wilson, and construction will begin as soon as the materials are delivered. The pavilion will be a one-story structure with verandas, and provision will be made suitable for dancing, public and club meetings, and for a reading room. It may be found convenient to open a small branch of the commissary, at which cigars, candies, and toilet articles may be purchased. The total cost will not exceed $5,000.

Panama Bathing Beach.

A petition has been presented by a number of employes of the Commission asking that dressing rooms for men and women be built at the bathing beach in Panama, between Peña Prieta and Punta Patilla. A request that the Panama railroad run trains to the beach on Sunday has been denied, because the Company has a right only to carry sand from the beach, not to run a passenger line. On this account an investigation is being made of the cost of a foot path and of a wagon road from the Sabanas road to the beach. The decision as to erecting a dressing room will await the estimate of the cost of building a path to the beach.

Southern Editors to Visit the Isthmus.

Members of the Louisiana, Mississippi and Arkansas Press Associations to the number of about fifty have arranged for an excursion to the Isthmus. They are scheduled to leave New Orleans on October 19, on the *Parismina* of the United Fruit Company's line, and will spend five days here inspecting the work on the Canal. Returning, they will sail from Colon on October 27, and brief stops will be made at Bocas del Toro, Limon, Belize and Porto Barrios.

An Isthmian Society.

THE CANAL RECORD:

Since the Government has gone to the length of issuing medals to employes of the Canal, why not go a step farther and form an order to which Canal men could belong, and of which the medal would be the insignia?

It would enhance, if possible, the decoration's value, create a strong *esprit de corps* among the Isthmians, and perhaps eventually grow into an organization of as much moment as the G. A. R.

Entitle it, for instance, "The Isthmian Society," and its members "Fellows" of that society. Such a bond among Canal men would be undoubtedly of lasting benefit, and besides being the cause of reunions of old Canal workers in the future, would be an ever-living monument to a great national enterprise.

Make it a Government institution, legalize it with an act of Congress, and thus the society would acquire a national importance, fully in accordance with the national achievement of building the Canal itself. It would be the nucleus for an American legion of honor. Why should not we Americans have an official national honor order such as other nations have? Why should not we of the United States be able to point to an institution similar to that of which the French Republic is so justly proud?

I may make bold to state that no matter how high or how important his present position in the Isthmian economy, there is no man who would not be proud to call himself "Fellow" of such a society.

I would respectfully beg to call the attention of the Isthmian Canal Commission to this. J. LOYAL SEWARD.

Gatun, C. Z., September 28, 1909.

School for Spanish Children at Culebra.

In reply to a petition of 24 Spanish residents of Culebra, employes of the Commission, a building will be assigned for use as a primary school for Spanish children. A woman teacher will be engaged and paid by the petitioners. The school will be conducted without expense to the Commission, as the building to be assigned will be one of those not in use for other purposes.

Obituary.

A. G. Lythgow of Illinois, died at Ancon Hospital on September 26, 1909. He was 42 years old, unmarried, and had lived on the Isthmus four years. His brother, F. S. Lythgow, lives at No. 3119 Michigan avenue, Chicago, Ill.

Missing Men.

Information is desired in regard to T. B. Hodge of Mississippi and R. K. Noel of Oklahoma. Any person having knowledge concerning either of these men is requested to communicate with the American Minister, Panama.

Any person who knows of the whereabouts of Jack Selenkow, employed during August as pipefitter in the Pacific Division, is requested to communicate with THE CANAL RECORD in order that his address may be sent to his family in New York.

Homicide at Monte Lirio.

Herman Brewster, a Barbadian, was fatally stabbed by Francis Bardigua, or Bardigno, near Monte Lirio, a point on the Panama railroad relocation, Thursday morning, September 30, as the result of a fight in which the two men had engaged. Brewster was stabbed in a leg, the instrument puncturing an artery, and died from loss of blood while being transported in a canoe to Gatun. Bardigua made his escape, and up to the 5th instant, had not been captured. Both men were employed by the Panama Railroad Company on relocation work near where the affair occurred.

Shooting at Gorgona.

Jacob Bell, a Barbadian, living at Gorgona, went to the house of a Barbadian woman named Eliza Taylor late Sunday night, October 3, and after engaging in a quarrel, attempted to kill her by shooting her in the head with a 32-caliber revolver. He then turned the weapon upon himself inflicting three wounds, two of which were insignificant. The woman was removed to Gorgona hospital and the man held at the police station, but subsequently both were taken to Ancon hospital.

YEAR WITH THE CLUBHOUSES.

Report for 1908-09 Shows Increased Patronage and Activities.

During the fiscal year ended June 30, 1909 the number of gold employes in the four towns where the Commission clubhouses are maintained, was about 400 less than the year before, but there was an increased patronage. Twenty-one hundred and forty employes availed themselves of membership privileges during the year, and the average paid-up membership at any given time was 1,268. The highest membership was 1,359, the lowest 1,190, with 1,222 at the close of the fiscal year, which represented about 50 per cent of the gold employes within reach of the clubhouses.

From a test count of attendance taken at various times, a daily average of 1,380 persons was indicated. This is 172 per day greater than estimates secured in a like manner during the previous year, and aggregates more than a half million visits in a twelvemonth. Beginning with the fiscal year 1909, the membership rates were reduced from $12 to $10 per annum, and from $7 to $6 for the half-yearly period. Notwithstanding this reduction, the gross receipts for the year were $57,586.32, or an average of $4,798.86 per month, which was $317.99 per month greater than during the preceding year. There was a net balance on hand June 30, 1909, of $1,169.43, above estimated liabilities. The sale of refreshments, consisting chiefly of ice cream and soft drinks, amounted to $22,230.40, of which only a small portion was profit, as this feature is intended for a social attraction, and is operated on a narrow margin.

The total number of books in the clubhouse libraries on June 30, 1909, was 3,148; number added during the year, 750; total number circulated, 15,717. Each reading room was supplied regularly with 100 publications. About 50,000 letters were written at the correspondence tables.

Gymnasium activities were confined principally to basket-ball and indoor baseball, though some systematic class work was conducted. An athletic park, where field sports are held occasionally on moonlight nights and holidays, was constructed near the Cristobal clubhouse. The total attendance at the gymnasium exercises was about 7,172, in which about 295 different members participated. There were 56,835 bowling games, and 148,088 pool and billiard games played during the year, and several interesting tournaments were held.

Eighty-one concerts, entertainments, etc., were given by talent secured in the States, and an attendance of 18,225 was recorded. Local talent was enlisted on 104 occasions, which drew an attendance of 26,170 people. One hundred and twenty-one functions not under the management of the association were held at the clubhouses, at which there was an estimated attendance of 14,000.

Women are granted the use of clubhouse privileges, including games on two afternoons each week. Advantage was taken of about half the afternoons offered, and the attendance during the last fiscal year was about 2,500.

Evening educational classes were conducted throughout the year, with the exception of the month of June. The studies included Spanish, mechanical drawing, arithmetic, shorthand, electricity and wireless telegraphy, and 148 different students were enrolled. Chess, checker, glee, minstrel, dramatic, camera, and orchestra clubs were successfully maintained. Seventy-nine joined voluntary Bible clubs, and 17 Sunday meetings and concerts were held, with a total attendance of 1,337. Committees for promoting the association enterprises averaged a membership of 78. More than one thousand calls were made on members in hospitals during the year. The membership of the junior department averaged 58, with an average attendance of 41 on three afternoons of each week. Junior activities consisted largely of games, gymnastic work, outings and visits to places of recreative and historic interest.

The clubhouses cooperated with other agencies in promoting enterprises looking to the general welfare, such as the Red Cross, the various churches, Sunday schools, and Women's clubs. During the two visits of the First Squadron of the Pacific Fleet at Panama—December 13 to 22, 1908, and February 22 to March 4, 1909—the Y. M. C. A. operated a sailors' headquarters in the city of Panama, cooperating with a committee of Panamanian citizens, including provision for a shore patrol, regarding which Rear Admiral William T. Swinburne, commander of the squadron, subsequently wrote expressing his appreciation.

The association has met with some difficulty in maintaining its staff of secretaries on the Isthmus. Seven left during the last fiscal year due to improved prospects elsewhere. The advisory committee representing the Commission's interests in the clubhouses, consists of Col. W. C. Gorgas, W. W. Warwick, Joseph Bucklin Bishop, H. L. Stuntz, and A. Bruce Minear.

Civil Service Examinations.

On October 24, beginning at 9 a. m., Civil Service examinations for the following positions on the Isthmus, will be held in the Commission clubhouse at Culebra: Clerk, stenographer and typewriter, and trained nurse.

At the same place and hour, any of the examinations offered in section 1 of the Civil Service Manual, revised to July 1, 1909, will be held, provided applications for any such examination are filed with the local Civil Service Board at Culebra, prior to the close of business on October 10.

Copies of the Manual and application forms can be obtained from the secretary of the local Civil Service Board, office of the Chairman, Culebra.

P. R. R. Classification of Expenditures.

On the first of July, 1909, the Panama Railroad Company adopted the Interstate Commerce Commission classification of expenditures in so far as the conditions on the Isthmus warranted such an application. The Interstate Commerce Commission does not recognize the Panama railroad as coming under its jurisdiction, but the officials of the railroad company held the view that a Government owned railroad should adopt the modern methods prescribed by the Government.

The classification of expense accounts hitherto used by the railroad company was very good in its day, but because of isolation from other railroads it has not kept up with modern methods. The classification of the Interstate Commerce Commission is the result of many years of careful study on the part of some of the most expert railroad accountants in the United States, and is, therefore, considered the best arrangement of operating expenses yet made.

Civil Service Retirement Association.

THE CANAL RECORD:

I am in receipt of a letter from Mr. M. F. O'Donoghue, president of the United States Civil Service Retirement Association, requesting my assistance in the organization of a branch of the Association on the Isthmus. The purpose of the organization is to create sentiment in favor of a system of retirement pensions for superannuated employes in the Civil Service of the United States. Any one familiar with conditions in the departments at Washington, and other Government offices in the United States, will realize that a system of compulsory retirement on pension would probably result in an improvement of the service, as well as undoubted benefit to individual employes who have spent their lives in the employ of the Government and are no longer capable of an efficient discharge of their duties. Such employes are now either dismissed in their old age, when they are no longer capable of earning a livelihood at other pursuits, or else are retained, from motives of charity, to the detriment of the service.

The dues of the association are 25 cents per annum. The funds collected from dues are expended to secure publicity for the aims of the Association. The Association has no paid officers.

There are, possibly, few persons on the Isthmus who intend to remain permanently in the service of the Government, and who might expect to derive personal benefit from the proposed system of retirement pensions, but many local employes may feel sufficient interest in an improvement of the general conditions of our employment, to contribute the moderate annual dues required by the Association to promote its work. I will be glad to receive subscriptions for membership and, if sufficient interest is manifested, I will call a meeting to perfect a permanent organization of a local branch of the Association.

JOHN K. BAXTER.

Culebra, C. Z., Oct. 2, 1909.

Card of Thanks.

Mr. and Mrs. George W. Tanner of Ancon, wish to thank their friends for the many kindnesses shown them during the illness of their son Harold, who died on October 1, from injuries received from a fall at Paraiso on August 30.

A storehouse for the joint use of the Commissary Department and the electrical subdivision of the Mechanical Division will be erected at Cristobal in the near future. It will be located near the cold storage plant.

Ships to Boquete.

The steamer *Taboga* of the Pacific Steam Navigation Company is scheduled to sail from Panama for Pedregal (David) on October 13 and October 27.

LOST—Canal medal No. 518, somewhere between house No. 69, Cristobal, and the P. R. R. roundhouse at Panama, along the main line of the Panama railroad. Finder is requested to return it to B. L. Larcom, locomotive engineer, P. R. R., Box 310, Ancon, C. Z., and receive reward.

SOCIAL LIFE OF THE ZONE.

Women's Clubs and Other Features.

The past two weeks have marked the general opening of the Canal Zone Women's Clubs for the season. Since the first of June the Pedro Miguel Woman's Club is the only one that has been holding regular sessions. At Gatun monthly business meetings have been held; at Gorgona frequent called meetings have brought the members together, and at Ancon the club has been active through its library work.

The Paraiso Woman's Club convened at the call of the president on Wednesday, September 15, for the purpose of electing officers for the coming year. Those chosen were: Mrs. W. Ellenwood, president; Mrs. W. McIntyre, vice-president; Mrs. T. C. McLaughlin, secretary, and Mrs. R. S. Conley, treasurer. Mrs. H. Bain was elected chairman of the entertainment committee. The club holds its meetings in Kangaroo hall on Wednesday afternoons at 2 o'clock.

The Cristobal Woman's Club will open the season with a reception to the outgoing president, Mrs. Lorin C. Collins, and to Mrs. Hiram J. Slifer, the incoming president, on Wednesday afternoon, October 6. A musical program will be given. On the same day the Ancon Woman's Club will open the season in the new rooms in Ancon hall.

At the meeting of the Gorgona Woman's Club on Thursday afternoon, September 30, Mrs. Frank W. Morrison was the guest of honor. In recognition of her service the members presented her with silver plates for bread and cake. Mrs. Morrison was the first president of the club, which was organized in July, 1907.

The meeting of the Canal Zone Federation of Women's Clubs will be held at Gatun on Tuesday, October 12, the business session beginning at 1.30 p. m. The board has been active in preparing a program of work for the Federation, and it is expected that the meeting will be one of special interest. A request has been issued by the president that each club president report a plan of the work it is intended to take up for the season, and also to show the difficulties and problems of her organization. The work to be undertaken by the Federation through its various committees will be outlined and discussed. A musical program is being arranged by the entertaining club. Through the courtesy of the Panama railroad, transportation will be furnished to delegates and alternates and Federation officers. The meeting will be held in the church building, which is near the railroad station. Mrs. J. Ponton has been designated acting corresponding secretary during the absence of Mrs. Frederick Mears.

The Gorgona Dramatic Club has effected a permanent organization, with the following officers: D. E. Hayes, manager; L. M. McRea, secretary and treasurer; E. W. Mitchell, stage manager; H. J. Humphrey, electrician and property man; A. L. Hackenberg, stage carpenter. In connection with the club, a literary branch has been organized, which meets at the homes of members on the first and third Thursday evenings of each month for social purposes. Plays have been sent for, and it is expected that the club will be ready to present a new comedy about the beginning of next year. The club has a membership of thirteen. At the performance of the comedy, "Capt. Racket," given at the National theater, Panama, for the benefit of the Red Cross, the sum of $560 was realized.

The residents of Gorgona tendered a reception to Mrs. Frank W. Morrison, who recently removed to Cristobal, on the evening of August 11. The arrangements for the entertainment were in the hands of committees consisting of men and women who had known Mrs. Morrison during her residence in Gorgona. The Commission clubhouse, where the reception took place, was decorated with palms and flags. A musical program by local talent was rendered, and games and contests furnished diversion. Refreshments were served. The members of the Odd Fellows lodge at Gorgona presented Mrs. Morrison with a linen table cover and a set of Japanese hangings. There were about 100 people present.

The Gorgona Dancing Club gave a dance at the Commission clubhouse on Saturday evening, October 2.

The Gorgona Woman's Club and parents of school children will give a reception to the local school teachers on Wednesday evening, October 6.

The Cristobal Dancing Club gave a dance at the clubhouse, Cristobal, on Saturday evening, September 25.

PERSONAL.

Mr. George D. Brooke has resigned his position as Superintendent of Motive Power and Machinery and will leave for the States on the *Ancon*, due to sail on October 10. He entered the service of the Commission on October 17, 1904, and arrived on the Isthmus the following month after having assisted the Chief Engineer in the purchase of part of the equipment now in use on the Canal. A dinner in his honor was given at the Hotel Tivoli on the night of October 2, by the employes of the Mechanical Division.

Capt. C. Nixon sailed for the States on his annual leave, on the *Colon*, on October 2.

Resolutions of Sympathy.

WHEREAS, The Almighty God in His infinite wisdom, has seen fit to take from us our friend and Brother Knight, H. C. Ball; be it

Resolved, That in remembrance of him, of his knightly virtues and of his friendship for all men, that the charter of this lodge be draped for a period of thirty days, as also his station; that we express to the wife who mourns his departure our sympathy for her in her bereavement; that these resolutions be spread upon the minutes of this lodge, and that a copy be furnished THE CANAL RECORD for publication.

EMPIRE LODGE, NO. 2, KNIGHTS OF PYTHIAS.

Empire, C. Z., September 29, 1909.

WHEREAS, Our Heavenly Father, in His Divine Providence, on September 21, 1909, called from among us our dearly beloved brother in Christ, Mr. H.C. Ball, leaving a devoted wife and two sons to mourn his departure; and

WHEREAS, Said brother was a regular and faithful member of our Church, his having been a Baptist since 1894, when he joined the Park Avenue Baptist Church, Rochester, N. Y., and has served as Deacon in our church since organization, therefore be it

Resolved, That the members of the First Baptist Church of Empire, C. Z., do hereby tender our heartfelt and Christian sympathy to the bereaved ones in their affliction, and recommend to them the love and sympathy of our loving Savior, Who wept with those who wept, and to his tender beatitude: "Blessed are they that mourn, for they shall be comforted," and be it further

Resolved, That a copy of these articles be furnished the family, the Baptist press, THE CANAL RECORD and a copy be incorporated into the minutes of our church of this date.

Done by unanimous vote of the Church, September 26, 1909.

J. C. FORMAN,
Church Clerk.

Empire, C. Z., October 2, 1909.

CHINA AND POTTERY.

Record of Commissary Sales for the Fiscal Year 1908-09—New Orders.

About $75,000 worth of china and pottery were sold to the Canal and Panama railroad employes by the commissary in the fiscal year 1909. This does not include the crockery used in the Commission hotels, which is purchased through the Quartermaster's Department. Most of this ware is purchased in the United States, although much of it originates in Europe and is merely sold by American importers. Its sale is not confined to the fifteen hundred American families entitled to purchase supplies at the commissaries, for the silver employes, mostly negroes, purchase a large proportion of it. In August there were only 965 negro families in Commission quarters, and 279 families of European laborers, yet the purchase of crockery and china from the "silver" sides of the commissaries was large.

The commissary has recently received and has now on sale a quantity of Tobey and Meakin ware. The Tobey ware includes jugs, mugs, tea sets, and individual dishes, and the most popular patterns are in imitation of old English crockery. An order has been placed for four hundred sets of Doulton, Booth, and Wedgewood china of assorted designs, which will sell at from $15 to $30 per set. Some sample orders of German glassware are expected shortly.

An order for a five month's supply of miscellaneous kitchen and dining room ware was sent to the States in September. It comprised 193 distinct items, 76 of which were for enameled ware, 34 for glass and chinaware, and the remainder for kitchen utensils and cutlery. This was not an experimental order in any sense, as the articles are those for which there is a steady demand. Among the items were 700 dozen Berlin kettles, 300 dozen tea kettles, and 675 dozen sauce pans of blue and white enamel, known as Venetian ware.

The glassware included 500 sets of pitchers with glasses, seven pieces to a set, 1,200 dozen glasses to match the pitchers in the sets, 685 dozen glasses of various kinds, 12 sets of cut glass water sets, and 100 dozen sugar bowls.

The miscellaneous ware included 600 dozen galvanized iron wash tubs, 100 dozen washboards, 100 dozen alarm clocks, 300 earthen pudding dishes.

Some dishes decorated with the Canal Zone seal are being manufactured in the United States and will be on sale at the commissaries within the next few months.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Cristobal, C. Z., on Wednesday, October 13, 1909, at 8.15 p. m. The program follows:

1	March—*Festal Day*	Roux
2	Selection—*Mary's Lamb*	Carle
3 *a*	Bolero—*Isolina*	Labory
b	*S. R. Henry's Barn Dance*	Henry
4	Waltz—*Idle Hours*	Woods
5	Medley Selection—*Glittering Glow Worm*	Lafarge
6	Caprice—*Danny and His Hobbyhorse* (By request.)	Pryor
7 *a*	Intermezzo—*Rainbow* (By request)	Wenrich
b	Rag—*Hoop-e-Kack*	Allen
8	Overture—*Lustspeil*	Keler-Bela
9	Ballet—*Flight of the Birds*	Rice
10	March—*The Sixth Massachusetts*	Missud

CHAS. E. JENNINGS, *Musical Director.*

The next concert will be given at Culebra, Sunday, October 17.

FOUND—At Cristobal Y. M. C. A., a pair of gold rimmed spectacles. Owner can recover same by calling and identifying property.

OFFICIAL CIRCULARS.

Form for Recruiting Employes.

CULEBRA, C. Z., October 1, 1909.

CIRCULAR NO. 280:

It is directed that Departments and Divisions requiring employes to be recruited in the United States forward their requisitions in future on Form C. E. 236.

A limited supply of these forms is attached to this circular. A further supply can be secured by requisition on the Depot Quartermaster. It is thought that instructions relative to the use of the form, other than those printed on its face, are unnecessary.

H. F. HODGES, *Acting Chairman.*

Form C. E. 236.

ISTHMIAN CANAL COMMISSION.

....

(Department or Division.)

....

CHIEF QUARTERMASTER,
(Through Office of the Chairman.)

SIR:

Requisition is hereby made for men to fill the following positions, to be obtained from the United States, in the event that suitable men are not available for appointment on the Isthmus:

Position.	Grade.	Pay.	Specifications same as Manual. If otherwise, so state.	Name of preceding incumbent.	Date wanted.	Remarks.

Requisitioned by

....

Title.

Approved, by direction of the Chairman.

....

Assistant to the Chairman.

NOTE: This form should be submitted in triplicate, properly executed.

Transfer of Property.

CULEBRA, C. Z., September 27, 1909.

CIRCULAR NO. 183-N:

Effective October 1, 1909, the Superintendent of Motive Power and Machinery will transfer to the different departments and divisions now holding same (including the Master Mechanic of Gorgona shops) all the property for which he is accountable, in accordance with the provisions of paragraph 3 of the "General Rules Covering Property Accountability and Responsibility." Equipment loaned to the Panama railroad will be invoiced to the Depot Quartermaster. Cars will be invoiced to the different divisions as carried on the records of the Mechanical Division, and readjustment will be made later.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Acting Purchasing Officer.

CULEBRA, C. Z., October 1, 1909.

CIRCULAR NO. 279:

During the absence of Capt. Courtland Nixon on leave, the duties of Purchasing Officer on the Isthmus will be performed by Lieut. R. E. Wood, Assistant Chief Quartermaster. Effective October 2, 1909.

H. F. HODGES, *Acting Chairman.*

Starting Passenger Trains—Colon and Panama

PANAMA RAILROAD COMPANY,
OFFICE OF SUPERINTENDENT,
COLON, R. P., September 27, 1909.

CIRCULAR NO. 733:

All Concerned—Commencing October 1, 1909, the following will govern the starting of passenger trains at Colon and Panama passenger stations:

One (1) tap of the bell will be given five (5) minutes before schedule leaving time; another tap one minute before leaving time, and two (2) taps of the bell at leaving time.

The gates will be closed immediately on two taps of the bell, and the train started by hand signal from the conductor.

J. A. SMITH, *Superintendent.*

Changes in Quartermaster's Department.

CULEBRA, C. Z., September 30, 1909.

ALL CONCERNED:

The following appointments in the Quartermaster's Department are announced, effective October 1.

Mr. W. G. Ross, to be District Quartermaster, Empire District.

Mr. J. D. Eason, to be Assistant District Quartermaster, Empire District.

Mr. J. T. Smith, to be Acting District Quartermaster, Pedro Miguel-Paraiso District.

R. E. WOOD, *Acting Chief Quartermaster.*

Rainfall, September 1 to 30, 1909, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Division—			
Cristobal	2.36	12	16.33
Brazos Brook	1.45	7	9.66
Gatun	2.88	10	10.86
Bohio	1.53	13	10.43
Central Division—			
Tabernilla	2.54	11	13.10
San Pablo	2.70	11	12.17
Gorgona	1.41	2	8.44
Gamboa	1.44	7	7.90
Empire	1.78	13	7.22
Camacho	1.86	14	13.01
Culebra	1.66	13	8.40
Pacific Division—			
Rio Grande	2.58	30	11.23
Pedro Miguel	1.75	18	10.22
Balboa	.85	14	4.11
Ancon	.92	18	3.86
Atlantic Coast—			
Porto Bello	2.16	13	13.99
Nombre de Dios	1.48	27	7.72
Upper Chagres—			
El Vigia	2.35	5	10.91
Alhajuela	1.71	13	7.50

September Rainfall for Three Years.

STATION.	1907.	1908.	1909.	Years of record.*	Station average.*	No. rainy days—1909.
Atlantic Division—						
Porto Bello	......	8.59	13.99	1	......	23
Nombre de Dios	......	......	7.72	0	......	22
Cristobal	11.72	11.57	16.33	38	12.48	24
Brazos Brook	13.02	12.05	9.66	3	13.23	24
Gatun	8.03	8.52	10.86	4	10.48	26
Gatun River	......	7.88	9.87	1	......	23
Trinidad	......	12.79	13.64	1	......	25
Bohio	13.63	8.74	10.43	15	14.07	22
Central Division—						
Tabernilla	12.51	12.85	13.10	2	12.68	23
San Pablo	13.39	9.42	12 17	2	11.40	20
Gamboa	14.01	6.28	7.90	26	10.65	24
Gorgona	......	......	8.84	6	13.87	22
Empire	10.86	9.76	7.22	5	7.87	21
Camacho	13.47	12.35	13.01	3	10.64	18
Culebra	11.38	13.74	8.40	18	11.58	17
Rio Grande	11.99	15.32	11.23	4	11.58	18
Pacific Division—						
Pedro Miguel	......	7.56	10.22	1	......	21
Balboa	9.99	5.93	4.11	10	6.71	12
Ancon	11.14	5.93	3.86	12	8.02	16
Upper Chagres—						
El Vigia	......	17.39	10.91	1	......	22
Alhajuela	11.88	13.45	7.50	10	11.80	24

* Not including 1909.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

An entertainment of moving pictures will be given on Friday evening, October 8. The same films have been exhibited with satisfaction in other clubhouses.

EMPIRE.

The bowling tournament games at Empire on Wednesday evening of last week resulted as follows:

Empire.	*First.*	*Second.*	*Third.*	*Total.*
Brown	148	170	233	551
Potter	148	191	183	522
Bardelson	160	189	155	500
Hinckley	191	165	165	521
Huson	157	180	198	535
Total	804	895	934	2,629
Culebra.				
Lamster	178	146	135	459
Herrington	162	164	178	504
Cohen	164	160	169	493
Winters	224	151	155	530
Dougherty	161	181	166	508
Total	804	895	803	2,494

An exhibition of moving pictures was given on Tuesday evening of this week.

GORGONA.

Twenty-nine new library books of popular fiction have been received and placed in circulation.

A moving picture entertainment was given last Friday night to a fair-sized audience.

On Saturday night, October 9, there will be a smoker for the men of Gorgona. The entertainment will consist of singing, dancing and a nine-act vaudeville performance. Messrs. Emery, Wright and Charnley have the arrangements in charge.

The bowling tournament games at Empire last Saturday night resulted as follows:

Gorgona.	*First.*	*Second.*	*Third.*	*Total.*
Otis	169	137	157	463
King	154	149	147	450
Buchanan	166	168	128	462
Roper	151	152	145	448
Sexton	157	174	184	515
Total	797	780	761	2,338
Culebra.				
Lamster	179	145	162	486
Herrington	131	135	178	444
Cohen	168	169	159	496
Winters	156	139	148	443
Dougherty	175	164	159	498
Total	809	752	806	2,367

CRISTOBAL.

The concert by the P. R. R. orchestra on Tuesday night of last week was attended by a large number of people, the program consisting of ten regular numbers. Mr. E. Sale is manager of this orchestra, and Mr. G. E. Thompson is conductor.

The bowling tournament games at Cristobal last Saturday night resulted as follows:

Cristobal.	*First.*	*Second.*	*Third.*	*Total.*
Bullard	187	154	196	537
Barlow	151	158	153	462
Louch	164	187	146	497
Strong	158	180	206	544
Barte	162	158	181	501
Total	822	837	882	2,541
Empire.				
Brown	177	168	162	507
Potter	200	169	193	562
Bardelson	182	157	183	522
Hinckley	162	188	207	557
Huson	170	170	224	564
Total	891	852	969	2,712

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending October 13, 1909 (75th meridian time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	A. M.	P. M.	P. M.
Oct. 7	....	3.38	9.40	4.12	10.30
Oct. 8	....	4.55	11.03	5.28	11.54
			P. M.		
Oct. 9	....	6.13	12.29	6.39	....
Oct. 10	1.08	7.20	1.38	7.38	....
Oct. 11	1.57	8.11	2.28	8.26	....
Oct. 12	2.43	8.52	3.05	9.05	....
Oct. 13	3.18	9.28	3.38	9.41	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

WEATHER CONDITIONS, CANAL ZONE, SEPTEMBER, 1909.

STATIONS.	Press're (reduc'd to mean of 24 hours.)	Temperature.					Mean relative humidity.	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches	Station average per month.	Number of rainy days.	Total movement (in miles.)	Prevailing direction.	Max. velocity (in miles.)	Direction.	Date.
Cristobal	29.845	79.1	90	27	71	12	91	16.33	12.48	....	4.367	S.E.	30	N.W.	3
Culebra	29.848	78.6	91	17	69	15	92	8.40	11 58	17	3,584	N.W.	28	S.W.	1
Ancon	29.844	78.9	93	21	70	15	92	3 86	8 02	16	4,570	N.W.	21	S.	26

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning October 2:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Steak	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	27
Chops	per lb	29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	4
Soup	per lb	6
Stew	per lb	10
Corned	per lb.,	12, 14, 16
Chuck roast	per lb	14
Pot roast	per lb	16
Rib-roast, second cut (not under 3½ pounds)	per lb	19
Rib-roast, first cut (not under 3 pounds)	per lb	21
Sirloin roast	per lb	22
Rump roast	per lb	22
Porterhouse roast	per lb	22
Steak, Chuck	per lb	15
Round	per lb	16
Rib	per lb	21
Sirloin	per lb	22
Porterhouse	per lb	22
Rump	per lb	22
Tenderloin	per lb	27

MISCELLANEOUS.

Livers—Beef	per lb	11½
Calf	each	65
Shad roes	pair	40
Sausage—Pork	per lb	17
Bologna	per lb	17
Frankfurter	per lb	17
Leberwurst	per lb	17
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	30
Oysters	keg	1.00
Eggs, fresh	dozen	32
Bluefish	per lb	15

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls,	each	90, 1.00
Ducks, fatted	each	1.30
medium weight	each	90
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese, fatted, about 10 pounds	each	2.00
12 pounds	each	2.30

CURED AND PICKLED MEATS.

Bacon—Breakfast, whole piece	per lb	27
Breakfast, sliced	per lb	29
Ham—Sugar-cured, sliced	per lb	§25
One-half, for boiling	per lb	§21
Westphalia	per lb	45
Hocks	per lb	‡8
Sugar cured	per lb	20
Beef, salt, family	per lb	10
Pork, salt	per lb	15
Ham, boiled	per lb	28
Ox tongues	each	1.00
Pigs' feet	per lb	14
tongues	per lb	16

DAIRY PRODUCTS.

Butter—Prints, prime quality	per lb	42
Cheese—Roquefort	per lb	45
Philadelphia Cream	each	20
Young America	per lb	22
Swiss	per lb	31
Edam	each	1.05
Camembert	per lb	28
Neufchatel	each	6
Gouda	per lb	34
Parmesan	bottle	20
French cheese in tins—Camembert, Brie, Neufchatel	1-lb tin	20
Milk, Briarcliff	bottle	**25

VEGETABLES AND FRUITS.

		Price
Celery	per hd	10
Lettuce	per lb	15
Potatoes, white, old	per lb	3¼
sweet	per lb	2½
Onions	per lb	3
Squash, Hubbard	per lb	5
Yams	per lb	3½
Turnips	per lb	3½
Carrots	per lb	*4
Beets	per lb	5
Potatoes, new	per lb	3½
Cauliflower	per lb	6
Cucumbers	per lb	4
Tomatoes	per lb	5
Lemons	dozen	24
Grapes	per lb	*8
Limes	per 100	80
Watermelons	each	40
Peaches	per lb	8
Cantaloupes	each	8
Blueberries	box	18
Cabbage	per lb	4½
Apples, eating	per lb	†6
Oranges	dozen	12
Grapefruit	each	4
Plums	per lb	*10
Pears	per lb	7

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight Saturday, October 2, 1909:

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft.	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Sept. 26	126.6	93.3	48.1	5.2	2.1	1.7
Monday, Sept. 27	126.6	93.9	48.2	5.0	1.9	1.7
Tuesday, Sept. 28	126.7	93.4	48.0	7.0	2.8	2.6
Wed'esday, Sept. 29	128.8	94.9	49.6	9.3	3.8	3.2
Thursday, Sept. 30	126.6	95.6	48.7	10.4	4.9	4.2
Friday, Oct. 1	129.4	95.4	53.7	17.7	8.0	6.9
Saturday, Oct. 2	127.8	94.6	52.1	18.0	9.6	8.2

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal and Colon during the week ended October 2, 1909, with supplies for the Isthmian Canal Commission:

Oruba, September 26, from New York, with 200 cases sapolio for stock.

Tampican, September 27, from Liverpool, with 200 barrels carbolic acid for the manufacture of larvacide.

Colon, September 27, from New York, with 48,000 feet triple tape fuse, 20,000 blasting caps, 36,000 electric fuses, 290 coils manila rope, 5,000 pounds caustic soda, 18 tons car and air brake parts, 19 tons steel bars and 24 tons black iron pipe for stock; 1 rock crusher, Department of Public Works, Gorgona; 30 tons unloader crane parts, Balboa; 6 unloader cables, 659 stake pockets, 600 bundles of brake shoes and 75,000 pounds ingot copper for Gorgona shops, and a miscellaneous cargo aggregating 3,316 packages, weighing 400 tons.

Sibiria, September 28, from New York, with 10 tons valves and tools for stock.

Abangarez, September 30, from New Orleans, with 25,000 pounds cotton seed meal and 8,000 pounds bran for Ancon dairy; 183 tons cast iron pipe, Gatun; 12,000 feet yellow pine lumber and 17 tons castings for car repairs; 200 pieces switchstands for stock; 15,000 feet yellow pine lumber, Gatun.

Manx Isles, September 30, from Baltimore, with 800 tons structural material for moveable towers, lock wall forms, at Gatun; 32 tons structural material for culvert forms, Gatun Locks; 42 tons steel axles, Gorgona shops; 37 tons steel angles, 100 tons corrugated iron, 22 tons steel bars, 878,313 pounds dynamite, 132,588 feet yellow pine lumber, 386 crates handles, 1,470 kegs track spikes, 6,640 pieces drain tile and sewer pipe, and 50,000 building brick for stock; 125 tons cast iron pipe and specials, Gatun; 30 tons axles and wheels for corral repairs; 128,000 feet white oak lumber for car repairs; 39 tons steel plates, 1,000 car wheels, 33 tons castings, Gorgona shops; one 20-ton locomotive coaling crane, Pacific Division.

The following vessels arrived at and departed from the port of Balboa during the week ended October 1:

Arrivals—September 30, *Mexico*, from South ports; October 1, *San Juan*, from San Francisco. Departures—September 25, *Pennsylvania*, for San Francisco; September 26, *Loa*, for South ports; September 28, *Calabria*, (Italian warship) bound North; September 29, *Ecuador*, for Guayaquil, and *Quito*, for intermediate ports.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO COLON.

Cristobal	P. R. R.	Thursday	Sept. 30
Magdalena	R.-M.	Saturday	Oct. 2
Advance	P. R. R.	Saturday	Oct. 2
Allianca	P. R. R.	Friday	Oct. 8
Prinz Joachim	H.-A.	Saturday	Oct. 9
Colon	P. R. R.	Thursday	Oct. 14
Ancon	P. R. R.	Friday	Oct. 15
Clyde	R.-M.	Saturday	Oct. 16
Panama	P. R. R.	Thursday	Oct. 21
Prinz Aug. Wilhelm	H.-A.	Saturday	Oct. 23
Allianca	P. R. R.	Tuesday	Oct. 26
Thames	R.-M.	Saturday	Oct. 30
Prinz Joachim	H.-A.	Saturday	Nov. 6
Atrato	R.-M.	Saturday	Nov. 13
Prinz Aug. Wilhelm	H.-A.	Saturday	Nov. 20
Tagus	R.-M.	Saturday	Nov. 27
Prinz Joachim	H.-A.	Saturday	Dec. 4

Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston euroute to Colon.

COLON TO NEW YORK.

Panama	P. R. R.	Friday	Oct. 8
Ancon	P. R. R.	Sunday	Oct. 10
Prinz Aug. Wilhelm	H.-A.	Tuesday	Oct. 12
Advance	P. R. R.	Thursday	Oct. 14
Cristobal	P. R. R.	Friday	Oct. 15
Allianca	P. R. R.	Tuesday	Oct. 19
Thames	R.-M.	Wednesday	Oct. 20
Colon	P. R. R.	Monday	Oct. 25
Prinz Joachim	H.-A.	Tuesday	Oct. 26
Ancon	P. R. R.	Thursday	Oct. 28
Panama	P. R. R.	Tuesday	Nov. 2
Allianca	P. R. R.	Monday	Nov. 8
Prinz Aug. Wilhelm	H.-A.	Tuesday	Nov. 9
Prinz Joachim	H.-A.	Tuesday	Nov. 23
Prinz Aug. Wilhelm	H.-A.	Tuesday	Dec. 7

NEW ORLEANS TO COLON.

Atenas	U.F.C.	Saturday	Oct. 2
Turrialba	U.F.C.	Saturday	Oct. 9
Abangarez	U.F.C.	Saturday	Oct. 16
Atenas	U.F.C.	Saturday	Oct. 23
Turrialba	U.F.C.	Saturday	Oct. 30
Abangarez	U.F.C.	Saturday	Nov. 6
Atenas	U.F.C.	Saturday	Nov. 13
Turrialba	U.F.C.	Saturday	Nov. 20
Abangarez	U.F.C.	Saturday	Nov. 27

COLON TO NEW ORLEANS.

Atenas	U.F.C.	Tuesday	Oct. 12
Turrialba	U.F.C.	Tuesday	Oct. 19
Abangarez	U.F.C.	Tuesday	Oct. 26
Atenas	U.F.C.	Tuesday	Nov. 2
Turrialba	U F.C.	Tuesday	Nov. 9
Abaugarez	U.F.C.	Tuesday	Nov. 16
Atenas	U.F.C.	Tuesday	Nov. 23
Turrialba	U.F.C.	Tuesday	Nov. 30
Abangarez	U.F.C.	Tuesday	Dec. 7

COLON TO BARBADOS, CALLING AT TRINIDAD.

Magdalena	R.-M.	Tuesday	Oct. 12

Sailings of the French line (Cie. Générale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Barbadian* for New Orleans, via Kingston, Ja., on or about October 11.

The Panama railroad steamships sail at 3 p. m. from dock at Cristobal direct to New York.

A ship of the United Fruit Company's line sails from the dock at Colon, at 3 p. m., Tuesday of each week.

The steamers *David* of the National Navigation Company, and the *Taboga* of the Pacific Steam Navigation Company, leave Panama, for David, province of Chiriqui, and intermediate points, the first and third weeks of each month.

Contract Building.

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., October 15, 1909, and then opened, for the erection by contract of a type-27 house, at Agua Clara reservoir, Gatun. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $200 when the contract is signed.

R. E. WOOD,
Acting Chief Quartermaster.

CANAL RECORD

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The Canal Record

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Address all Communications
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Gatun Locks.

At the close of work on Saturday, October 9, there had been laid in Gatun Locks, 18,668 cubic yards of concrete. The average for the week ended October 9 was 828 cubic yards a day, the highest daily average yet reached. Since the beginning of the work on August 24, the amount of concrete laid each week is as follows:

	Cubic Yards.
August 28 (four days)	732
September 4	1,634
September 11	1,742
September 18	2,598
September 25	3,786
October 2	3,210
October 9	4,966

Miraflores Power Station.

The first of the three turbo-generators at at the Miraflores power station has been completed, and was given its preliminary trial on Saturday, October 2. It has been operated at intervals since, and as soon as some insulation troubles are cleared, will be ready to furnish current. Two wires have been strung on the transmission line to the Pedro Miguel Locks, and work will shortly commence on the new substation at that point, which is to be equipped with two 500-k. w. converters.

Improving Panama Suburbs.

Sanitary building improvements on Panama railroad land in the districts of Guachapali and Santa Cruz, in Panama, were begun on June 21, 1909, when the Health Office ordered 152 houses and shacks in the district of Guachapali to be destroyed. At the same time permission was granted to the owners of 73 houses to move them so as to conform with the new lot surveys. Under the present regulations houses cannot be erected to occupy the entire width of a lot, but a space of 1½ feet must be reserved on each side for ventilation. Of the total of 225 houses in this tract to be demolished or moved, 83 were either wholly or in part within the proposed street lines, and action has been taken on about 90 per cent of them, so that on September 30, the new street lines were cleared sufficiently to permit of the laying of sewers on Panama railroad land whenever the municipal engineering forces are ready.

The Health Office had issued 35 building permits in Guachapali up to September 30, this number not including houses moved to new locations as authorized on June 21. It is estimated that the work of moving and demolishing houses in this section is about 75 per cent completed.

In Santa Cruz, 57 houses and shacks were condemned on June 21, and permission was given to the owners of 40 houses to move them to conform with the lot surveys, making a total of 57 on which action has been taken. Very little work has been done so far in this district, on account of the more extensive operations in Guachapali, and only one building permit has been granted to date.

Clearing in Gatun Lake Region.

A contract has been made for clearing all trees, brush, and grass from the Canal prism between the mouth of the Trinidad River and Tabernilla, and work will be begun this month. About 842 acres are to be cleared, and when the work is completed only a small amount of clearing will remain to be done in the channel through Gatun Lake. The material cut is to be burned. The contract has been awarded to the lowest bidder, the bids being as follows:

	Amount.	Per acre.
B. B. Duncan	$29,853.21	$35.45
E. C. McFarland	40,750.00	48.39
R. W. Hebard	45,214.00	53.68
Charles Alberts	47,998.00	57.00
Enri Sard	56,819 00	67.46

New Quarters at Camp Elliott.

New quarters for the commandant at Camp Elliott are under construction at one of the highest points on the hill, on the former site of the band stand and flag staff. In style, the plans of an Isthmian Canal Commission type-10 house have been followed, with the single exception of an addition, or ell, to the right of the front. The house will be 32 feet wide and 40 feet long, and the ell 15 feet by 18 feet. The living room, dining room, servant's room, kitchen, etc., will be on the first floor, and the sleeping rooms and bath room above. All the work on the building is done by the marines.

Gorgona Office, Central Division, Abolished.

Mr. R. W. Hebard, assistant engineer in charge of the Gorgona office of the Central Division, has resigned, effective November 2. As the work in the territory between Bas Obispo and Gatun is becoming less, the Gorgona office has been closed and the engineering formerly done from that office has been taken up by the Resident Engineer at Empire and the assistant engineer at Las Cascadas.

CANAL HALF EXCAVATED.

Halfway Mark Passed—Figures of the Work in September.

The grand total of Canal excavation down to the end of September was 87,172,058 cubic yards, which was only 322,479 cubic yards short of one-half of the total excavation to be made for the completion of the Canal. As the average daily excavation is over one hundred thousand cubic yards the output of the first week in October was ample to put the record safely past the halfway mark. The details of the excavation since the beginning of American occupation, by divisions and sections, are published elsewhere in this issue of THE CANAL RECORD.

The grand total of Canal excavation in September was 2,836,385 cubic yards, which is 81,207 cubic yards more than the total for August, and 1,043,952 cubic yards less than the highest record, that of March, 1909. Of the 2,836,385 cubic yards, 2,771,245 were charged to "work" excavation and 65,140 to "plant." The dry excavation amounted to 1,713,233 cubic yards, and was principally by steam shovels. The dredges removed 1,123,152 cubic yards, in addition to the amount pumped into Gatun Dam by the three suction dredges on that work.

In the construction of the locks, 13,733 cubic yards of concrete were laid; 3,741 cubic yards were laid in the spillway of Gatun Dam, and 4,023 cubic yards were laid in municipal work, a total of 21,497 cubic yards of concrete. The fill placed in dams amounted to 451,783 cubic yards.

There were 25 working days during the month, one less than in August. The mean rainfall in the territory in which excavation was in progress was 10.07 inches, as compared with 9.28 inches during August.

In the Atlantic Division the work of constructing Gatun Locks was continued, and 11,364 cubic yards of concrete were laid. In Gatun Dam spillway 3,741 cubic yards of concrete were laid, and the hydraulic and dry fill added to the Dam amounted to 412,152 cubic yards. The total excavation was 540,114 cubic yards, 9,555 cubic yards more than in August. Of this total, 113,827 cubic yards were dry excavation, principally by steam shovels, and 426,287 cubic yards were removed by dredges.

The total excavation in the Central Division was 1,471,796 cubic yards, practically all of which was by steam shovels. This was 66,883 cubic yards more than were removed in August. Of this total, 1,235,183 cubic yards were taken from Culebra Cut, 65,841 cubic yards more than were excavated in the Cut in August.

In the Pacific Division the work of placing concrete in the locks at Pedro Miguel was begun on the first of the month with a temporary plant. During the month 2,369 cubic yards of concrete were laid. The total

NOTES OF PROGRESS.

Continued.)

excavation in this division was 824,475 cubic yards, of which 696,865 cubic yards were removed by dredging, and the remainder was dry excavation. The fill added to the dams at Pedro Miguel and Miraflores amounted to 39,631 cubic yards.

A detailed statement of the excavation and of the lock and dam work follows:

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
ATLANTIC DIVISION.			
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Dry excavation—			
Locks, Dam and Spillway	49,945	2,445	52,390
Mindi	61,437	....	61,437
Total	111,382	2,445	113,827
Wet excavation—			
Atlantic entrance	410,574	....	410,574
Locks, Dam and Spillway	....	14,113	14,113
Permanent Plants	....	1,600	1,600
Total	410,574	15,713	426,287
Total wet and dry excavation	521,956	18,158	540,114
CENTRAL DIVISION.			
All dry excavation—			
Culebra Cut	1,235,183	....	1,235,183
Chagres section	235,818	....	235,818
Obispo Diversion	795	....	795
Total	1,471,796	....	1,471,796
PACIFIC DIVISION.			
Dry excavation—			
Locks, Dams and Spillways	80,628	46,982	127,610
Diversions	....	....	....
Total	80,628	46,982	127,610
Wet excavation—			
Pacific entrance	662,976	....	662,976
Miraflores Locks	33,889	....	33,889
Diversions	....	....	....
Total	696,865	....	696,865
Total wet and dry excavation	777,493	46,982	824,475
TOTAL CANAL EXCAVATION.			
Dry excavation	1,663,806	2,445	1,713,233
Wet excavation	1,107,439	62,695	1,123,152
Total	2,771,245	65,140	2,836,385

Mean rainfall along Canal (eleven stations) 10.07 inches. Twenty-five working days.

By "Work" Excavation is meant excavation actually made for one of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc.; that is, it represents material taken from the area to be occupied by the Canal, and constitutes excavation useful for the completed Canal.

By "Plant" Excavation is meant excavation outside of any of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc. It includes material necessary to be excavated for construction purposes only and is chargeable against the particular plant item for which it is performed, such as Prism, Diversions, Locks, etc.

DAM AND LOCK CONSTRUCTION.

MATERIAL.	Atlantic.	Pacific.	Total.
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Fill placed in dams and spillways	412,152	39,631	451,783
Concrete laid in dams and spillways	3,741	....	3,741
Concrete laid in locks	11,364	2,369	13,733

Canal Paleontology in Smithsonian Institution.

WASHINGTON, U. S. A., September 21, 1909.

Dear Sir—The specimens of fossil shells from the Culebra Cut, thirteen in number, which you so kindly transmitted under date of August 28, have been duly received and recorded as an accession to the collections in the National Museum under the Isthmian Canal Commission. The interest of the specimens to the Museum is considerably enhanced by the fact that up to this time the locality where they were obtained had not been represented in the paleontological collections.

With assurances of my thanks for this evidence of your interest, I am

Very respectfully yours,
R. RATHBUN, *Acting Secretary.*

LIEUT.-COL. GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission, Culebra, C. Z.

Opening of Public Schools.

The Canal Zone schools opened on October 4, with a total attendance of 1,025, as compared with 937 in 1907, and 668 in 1908.

In the schools for white children 45 pupils were registered in the high school course, 11 at Culebra, 9 at Gatun, and 25 at Cristobal; 270 pupils in the intermediate grades, and 345 in the primary grades. The attendance by schools was as follows:

Ancon	71	Las Cascadas	38
Corozal	27	Gorgona	82
Pedro Miguel	30	Tabernilla	9
Paraiso	20	Gatun	47
Culebra	70	Cristobal	105
Empire	83	Colon Beach	33

In the schools for negro children the attendance on the first day was as follows:

Balboa	20	Gorgona	39
Las Sabanas	..	San Pablo	14
Paraiso	34	Tabernilla	24
Culebra	34	Frijoles	9
Empire	69	Bohio	20
Las Cascadas	5	Gatun	..
Matachin	30	Mount Hope	34
Cruces	..	Cristobal	62
Pleya de Flor	21		

The attendance in the negro schools is always light during the first week, and especially during the first three days. At Las Sabanas, for instance, where there were no pupils the first day, there were five on the second, and 6 on October 8.

As a result of the examination for teachers for the schools for colored children held on September 17, fifteen of the twenty-eight applicants qualified. These with the men who qualified in the spring examination made it possible to open the schools with qualified teachers. An examination to provide an eligible list will be held on November 13.

The medical examinations by district physicians, begun last year, were resumed on October 4. A thorough examination of each child enrolled in the schools is in progress, and after it is completed and the data are compiled, an examination will be made each month.

Exterminating Larvae with Fish.

The Department of Sanitation will soon take steps to destroy mosquito breeding in the stagnant bodies of water in the marshes between Sosa Hill and El Diablo. Before work was begun on the abandoned Sosa-Corozal dam salt water invaded the marshes regularly, but in constructing the rock and earth fills the tidal channel was obstructed, and the rains soon created fresh water pools in the low, hemmed-in places.

It would be possible to inundate the locality at high tide by opening a passage through the embankments, but it has been considered more economical to treat the fresh water with copper sulphate in order to kill the algal growth, which furnishes food and a hiding place for the larvae. It is further proposed as an additional precaution to stock the pools with small varieties of fish, which will be caught in traps and placed in them. Some of the fish, especially the surface-feeding kind, have proved good destroyers of anopheles larvae where algae and aquatic vegetation do not exist.

The breeding of the species of diminutive fish known as "Millions," brought here in July, has proved successful. They were placed in a tank in the court of the Administration Building at Ancon, where they have multiplied rapidly, and where none has died so far as observed. When the number of these fish increases sufficiently, it is proposed to transfer a part of them to the fresh water lakes and ponds.

Cocoli Lake, near Miraflores, will be controlled in much the same manner as the pools in the marshes. Considerable work has already been done in that vicinity. The shore of the lake nearest the labor camp has been cleared of brush, resulting in an immediate and decided diminution of mosquitoes in the barracks at that point.

Rates to New York for Employe and Family.

THE CANAL RECORD:

Will you kindly inform me through the columns of THE CANAL RECORD how long I am obliged to be employed in the Canal service before being entitled to a $20 rate to the States, and also what return rates apply to my family? "GOLD CLERK."

Empire, C. Z., October 3, 1909.

[Circular No. 175-A, published in THE CANAL RECORD of January 27, 1909, defines the conditions under which rates on Panama railroad steamships will be granted to employes. Provided the employe was appointed in the United States prior to January 1, 1909, and resigns after six months service and less than two years service he may be granted the $20 rate on proper application. The dependent members of an employe's family may be granted a rate of $20 if the employe was employed in the United States prior to January 1, 1909, and a $30 rate provided he was employed in the United States after December 31, 1908.]

Increased Post-Office Registry Fee.

The Postmaster General at Washington, in Order No. 2617, effective November 1, 1909, has increased the fee of registering mail matter from 8 to 10 cents for each piece, addressed to either foreign or domestic destination; and the amount of indemnity for loss of domestic registered mail matter of the first-class is increased to a maximum of $50. The Head of the Department of Civil Administration has approved the recommendation of the Director of Posts that the provisions of this order be made applicable in the Canal Zone Postal System. The order is as follows:

OFFICE OF THE POSTMASTER GENERAL,
WASHINGTON, D. C., September 13, 1909.

ORDER NO. 2617.

By authority of Section 3927, Revised Statutes, it is hereby ordered that the fee for registering mail matter be, and the same hereby is, fixed at ten cents for each piece, in addition to the regular postage, both to be, in all cases, prepaid.

And by authority of the Acts of April 21, 1902, Chapter 563, and March 3, 1903, Chapter 1009, it is further hereby ordered that the maximum amount of indemnity to be paid for lost domestic registered mail matter of the first class be, and the same hereby is, fixed at fifty dollars.

This order shall take effect and be in force on and after the first day of November, nineteen hundred and nine.

All regulations of the Department that may be inconsistent with this order are hereby modified to conform thereto.

F. H. HITCHCOCK,
Postmaster General.

UNUSUALLY HEAVY RAINS.

Flooded Lock Pits at Pedro Miguel and Miraflores.

The rainfall at Pedro Miguel from midnight of September 30, to midnight of October 9, amounted to 10.55 inches, or more than the entire precipitation at this point during the month of September, which was 10.22 inches. Two heavy storms accounted for the greater part of this rainfall, one on October 1, when 3.36 inches fell, the other on October 6, when the record showed 3.82 inches. As a consequence Canal work in this section was retarded to some extent.

The rain of October 1 caused Cocoli Lake to overflow into the lock pit at Miraflores, flooding the pit with an amount of water estimated at about 8,000,000 gallons. The rain of October 6 caused a delay of two full days in concrete operations at the Pedro Miguel Locks, due to the accumulation in the pit of about 7,000,000 gallons of water. The excavation work was also impeded. On October 5, the day's output amounted to 2,340 cubic yards; on October 6, the day of the rain, to 1,400 cubic yards, and on October 7, to only 540 cubic yards. On the 8th the yardage was 1,550, and on the 9th the record was normal again, both as regards excavation and concrete operations.

Considerable difficulty has been experienced in getting rid of the water rapidly at the Pedro Miguel and Miraflores Locks with the present pumping facilities, but with the installation of the new pumps received recently and shortly to be placed, this problem will be practically eliminated. The pumping machinery at the Pedro Miguel Locks consists of one 14-inch centrifugal pump, with a rated capacity of about 2,500 gallons per minute, and five smaller pumps, with a total capacity approximating 1,500 gallons per minute. These figures do not represent the actual work the pumps accomplish, but refer to the water that can be actually ejected from the lock pit.

Various low levels exist in the west chamber of the Pedro Miguel Locks, some with a bottom elevation of three feet above sea level; others at six feet, and so on. These various excavations fill with water, and in order to drain them with the present pumping facilities, one set of pumps forces the water out of the low to higher levels, and another set carries it free of the locks. The actual working capacity of these smaller pumps when all are in operation is probably close to 5,000 gallons per minute.

The distribution of the new centrifugal pumps provides for the placing of two 12-inch and one 6-inch at the Pedro Miguel Locks, and one 12-inch and two 6-inch at the Miraflores Locks. The bulk of the water that flows into the Pedro Miguel Locks comes from the upper forebay, attaining large volume in such rains as those of October 1 and 6. This outlet will be blocked, and the water thus held back will be pumped from a sump by a 12-inch centrifugal pump which will be installed within the next ten days. All the new pumps, as well as those now in use, will be operated by power from the electric plant as soon as the power house is ready and the connections are made.

The rain of October 6 did not interfere with operations at the Miraflores Locks to any appreciable extent. In the interval between the 1st and 6th dikes were built to protect the pit from another overflow of the lake, and the only water that collected in the locks was that which came from within its own area. The second heavy rain caused a rise in Cocoli Lake to 41 feet above sea level, or 6 feet above normal, and a veritable torrent poured over the spillway of the lake into the Rio Grande at this time.

Nearly Five Inches of Rain in One Hour.

At Cristobal, on the afternoon of October 8, a heavy rainfall began at 3.40 o'clock and lasted until 5.15 o'clock. In that time—1 hour and 35 minutes—6.03 inches of rain fell. During the hour of the heaviest fall 4.90 inches of rain were recorded. For the first five minutes the rainfall was 0.57 of an inch; first 10 minutes, 1.06 inches; first 15 minutes, 1.66 inches; first 30 minutes, 2.90 inches. The storm was purely local to Cristobal and Colon, as at the nearest gauging station, Gatun, only 0.85 of an inch fell during the afternoon.

The heaviest rain recorded on the Isthmus was that of June 2, 1906, at Balboa, when 5.86 inches fell in the hour from 4 to 5 o'clock in the afternoon. At Bohio, on August 7, 1908, in the hour from 3.50 to 4.50 in the afternoon 4.51 inches of rain fell, and on August 25, 1909, at Cristobal, 4.30 inches fell between 1.56 and 2.56 o'clock in the afternoon.

Gauging Floods in Culebra Cut Diversions.

During the heavy rain on the afternoon of October 6, when the total rainfall at Empire aggregated 2.60 inches, the recently completed Obispo Diversion was gauged at "Station 1680," a few hundred feet north of a point opposite Empire, where the Las Cascadas plantation road crosses the Diversion, and it was found that the discharge was 1,980 cubic feet per second. The mean velocity was 7.2 feet per second, and the cross section of the stream was 275 square feet. The bottom slope of the Diversion at this point is 13.2 feet per mile, and the sides and a considerable portion of the bottom are covered with a thick growth of tropical plants. The total drainage area above the gauging section is 6.9 square miles.

Two gauging stations have been established on the Obispo Diversion and one on the Camacho Diversion. The first station on the Obispo Diversion is at a point near the outlet into the Chagres River at Gamboa, and the area of the cross section is 387.5 square feet. In the flood of October 6, the mean velocity of the stream was 3.64 feet per second. The discharge was 1,410.5 cubic feet per second, or 10,551 gallons, equal to 633,030 gallons per minute. The other gauging station is at the point referred to above, opposite Empire. The method of gauging, with the cross section known, is to note the height of the water on the gauging staff, and find the velocity on the surface by allowing a float to pass through 100 feet, the mean velocity being eight-tenths of the surface velocity. This method is accurate enough for practical purposes.

In the flood of October 6, the discharge was 306 cubic feet per second more at the station opposite Empire than at the outlet. This is due to the fact that the fall at the station opposite Empire is 13.2 feet per mile, while at the outlet it is 5.2 feet per mile, and that between the two stations the water spreads out in a number of basins, and thus takes more time to run off.

The gauging station on the Camacho Diversion has been established at the entrance to the tunnel near Bas Obispo.

Rainfall in Culebra Cut.

In the first week in October the rainfall in Culebra Cut was so heavy as appreciably to interfere with the excavation. For the week ended at 5 o'clock in the afternoon of October 7, the record at four points along the Cut was as follows:

	Inches.
Gamboa	6.76
Empire	9.39
Culebra	7.34
Rio Grande	7.09

Lidgerwood Unloaders in September.

A statement of the work of Lidgerwood unloaders in the Central Division during the month of September follows:

DUMP.	No. of unloaders.	No. of trains.	No. of cars.
Balboa	3	815	15,485
Miraflores	3	682	12,958
Tabernilla	5	1,329	23,922
Total	11	2,826	52,365

Registration of Births.

THE CANAL RECORD:

Will you please tell me where the birth of a child should be registered. I have asked the doctor and the police sergeant here in Paraiso, but they did not know.

WILLIAM CLAUS.

Paraiso, C. Z., September 27, 1909.

[The laws of the Canal Zone, under the chapter Sanitary Rules and Regulations, provide:

> [* * * Every physician or midwife attending at the birth of a child must report the same to the Board of Health upon blank forms furnished for such reports, within three days after * * * the birth of said child.

[Section 12, paragraph 4, under the head of Municipal Governments, provides:

> [The municipal secretary * * * shall keep a civil register for the municipality, and record therein all births. * * * Physicians and midwives residing or practicing their profession within the limits of the municipality shall forthwith forward to the municipal secretary notification of every birth or death that occurs under his or her professional observation, together with the necessary information for making the proper entry in the civil register.

[Under the present organization of the Canal Zone Government the district tax collectors take the place of and perform the duties formerly assigned to the municipal secretaries. It is the duty of the attending physician at the birth of a child to make a return in accordance with law. If he fails to do so the district tax collector will register the birth, upon presentation of the proper facts, in a register furnished him for that purpose.]

Obituary.

Harold Tanner, a seven year old son of G. W. Tanner of Paraiso, fell from a veranda on August 30, striking his head on a concrete drain. He died at Ancon Hospital on October 1.

Stephen Kennedy, an enlisted man in the Marine Corps, stationed at Camp Elliott, was struck by a railroad train near the camp on October 7 and killed. He was born in Bristol, Conn., January 31, 1882, and had been on the Isthmus sixteen months. His father, Thomas Kennedy, of 25 Valley street, Bristol, Conn., survives him.

RECORD OF EXCAVATION SINCE AMERICAN OCCUPATION.

MONTHLY TOTALS BY CUBIC YARDS, PLACE MEASUREMENT.

ATLANTIC DIVISION.

COLON—STEAM SHOVELS.

Months.	1907*	1908*	1909	
	From Canal Prism	From Canal Prism	From Canal Prism	Outside Canal Prism
January	....	62,835	45,664	....
February	....	65,632	46,046	....
March	....	81,850	70,713	....
April	....	67,436	74,368	....
May	....	54,333	71,407	....
June	....	32,022	80,101	....
July	731	23,515	82,378	....
August	15,257	16,309	66,249	....
September	28,837	32,112	61,437	....
October	41,078	45,475	....	....
November	40,003	47,183	....	....
December	46,945	62,253	....	....
Totals	172,851	590,955	598,363	....

Total to October 1, 1909—1,362,169 cubic yards.
*No work done outside of Canal Prism

COLON—DREDGES.

Months.	1907		1908		1909	
	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	....	111,100	444,403	46,298	521,050	....
February	....	110,002	401,887	25,835	444,910	....
March	....	84,145	515,223	31,663	461,208	....
April	....	69,889	496,366	....	470,635	....
May	....	133,847	564,386	....	315,370	....
June	17,000	107,118	572,749	....	182,575	....
July	104,322	5,600	625,497	....	348,451	....
August	189,170	5,127	638,217	....	422,846	....
September	403,842	....	624,776	....	410,574	....
October	409,632	5,488	505,260	....	....	....
November	417,297	5,500	570,832	....	....	....
December	428,053	14,782	679,604	....	....	....
Totals	1,969,316	652,598	6,639,200	103,796	3,577,619	....

Total to October 1, 1909—14,369,994 cubic yards.

In this total are included 399,820 cubic yards excavated in 1905, and 1,027,645 cubic yards in 1906. There were also 38,425 cubic yards removed by dredges at the Gatun dam site in 1907.

GATUN LOCKS, DAM AND SPILLWAY—STEAM SHOVELS.

Months.	1907		1908		1909	
	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	47,539	....	193,567	98,588	69,001	33,689
February	70,177	....	176,291	106,506	61,819	33,212
March	100,151	....	202,763	171,835	59,598	30,453
April	103,459	....	196,109	177,347	58,088	11,921
May	70,528	....	138,815	127,932	48,198	4,588
June	71,181	3,832	116,998	127,953	28,943	7,613
July	59,537	14,628	136,816	76,543	36,098	2,960
August	78,357	26,866	130,263	57,999	40,346	....
September	87,423	36,315	104,780	41,210	42,047	7,898
October	136,777	40,236	109,667	44,397	....	....
November	121,635	40,987	83,527	34,751	....	....
December	160,795	69,756	65,950	53,954	....	....
Totals	1,107,559	232,620	1,655,546	1,119,015	444,138	132,334

Total to October 1, 1909—4,717,840 cubic yards.

In this total are included 26,628 cubic yards excavated from the Canal prism October to December, 1906. In addition there were 488,533 cubic yards removed by dredges from Gatun locks in December, 1908, January, February, March, April, May, June and July, 1909.

CENTRAL DIVISION.

CULEBRA SECTION—STEAM SHOVELS.

Months.	1904	1905	1906	1907	1908	1909
January	....	70,650	120,990	566,750	1,227,022	1,150,249
February	....	75,200	168,410	639,112	1,248,265	1,194,454
March	....	132,840	239,178	815,270	1,290,885	1,511,397
April	....	126,749	213,177	879,527	1,242,574	1,291,844
May	27,556	75,935	196,209	690,365	960,840	1,126,963
June	32,551	76,905	212,623	624,586	1,134,032	1,242,134
July	31,599	78,570	159,789	770,570	1,121,325	1,200,828
August	35,056	49,210	244,823	786,866	1,171,927	1,173,370
September	25,220	44,085	291,452	753,468	1,122,860	1,235,978
October	19,695	52,940	327,009	834,499	1,160,101	....
November	28,860	60,540	221,642	790,632	1,022,576	....
December	42,935	70,630	307,689	1,025,485	1,210,046	....
Totals	243,472	914,254	2,702,991	9,177,130	13,912,453	11,127,217

Total to October 1, 1909—38,077,517 cubic yards.

CHAGRES SECTION—STEAM SHOVELS.

Months.	1907*	1908		1909	
	From Canal Prism	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	....	169,447	....	389,399	....
February	....	200,145	....	450,182	....
March	..	324,233	....	542,691	....
April	....	329,483	....	490,922	....
May	....	235,902	....	386,170	....
June	....	322,145	....	275,900	....
July	....	345,757	....	233,897	....
August	2,900	366,810	1,873	231,543	....
September	21,546	346,948	....	235,818	....
October	25,627	424,911	....	....	....
November	44,044	336,390	....	....	....
December	98,652	383,948	....	....	....
Total	192,769	3,786,119	1,873	3,236,522	....

Total to October 1, 1909—7,217,283 cubic yards.
*No work done outside Canal prism.

CANAL EXCAVATION TO DATE.

		Cu. Yds.
By French Companies		81,548,000
By Americans—		
Steam shovels	53,795,873	
Dredges	33,376,185	
Total		87,172,058
May 4 to December 31, 1904	243,472	
January 1 to December 31, 1905	1,799,227	
January 1 to December 31, 1906	4,948,497	
January 1 to December 31, 1907	15,765,290	
January 1 to December 31, 1908	37,070,887	
January 1 to September 30, 1909	27,344,685	

EXCAVATION IN TERRITORY OF PRESENT DIVISIONS

May 4, 1904, to September 30, 1909.

DIVISIONS.	Amount excavated. Cubic yards—Total.		Estimated amount yet to be excavated. Cubic yards—Total.	
Atlantic—				
Dry excavation	6,080,009	20,976,961	3,481,902	22,100,350
Dredges	14,896,952		18,618,448	
Central, all dry excavation—				
Culebra Cut	38,076,722	45,294,800	39,927,875	44,499,693
All other points	7,218,078		4,571,818	
Pacific—				
Dry excavation	2,421,064	20,900,297	3,509,516	20,894,494
Dredges	18,479,233		17,384,978	
Grand totals		87,172,058		87,494,537

PACIFIC DIVISION.

PEDRO MIGUEL LOCKS—STEAM SHOVELS.

Months.	1908		1909	
	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	....	....	83,726	....
February	....	....	57,138	1,104
March	....	....	93,261	2,363
April	....	....	101,365	....
May	....	....	57,523	....
June	6,832	6,396	70,971	....
July	18,964	3,684	77,503	....
August	21,203	1,014	58,025	....
September	28,750	83	48,825	....
October	47,688	1,187	....	....
November	55,401	....	....	....
December	65,578	....	....	....
Totals	244,416	12,364	648,337	3,467

Total to October 1, 1909—908,584 cubic yards.

MIRAFLORES LOCKS, DAMS AND SPILLWAY—STEAM SHOVELS

Months.	1908		1909	
	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	7,203	....	54,383	6,819
February	38,661	385	44,294	9,395
March	67,963	5,231	46,616	4,801
April	92,261	6,682	38,275	21,785
May	54,606	18,417	30,723	16,865
June	68,691	....	39,942	15,711
July	87,675	16,694	43,736	7,263
August	91,065	3,183	35,338	108
September	88,605	2,318	31,363	440
October	71,201	3,499	....	....
November	47,109	5,821	....	....
December	65,416	4,234	....	....
Totals	780,456	66,464	364,670	83,187

Total to October 1, 1909—1,294,777 cubic yards.

There were also 78,233 cubic yards removed by steam shovels at Balboa locks and dams in 1907; 139,298 cubic yards at Cardenas Hill March to December, 1908, and 279,706 cubic yards by dredges at Miraflores Locks in January, February, March, April, May, June, July, August and September, 1909.

BALBOA—DREDGES

Months.	1905	1906	1907		1908	1909
	Outside Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism	From Canal Prism	From Canal Prism
January	....	95,940	....	94,710	460,250	469,529
February	....	95,940	....	93,480	663,519	671,477
March	....	116,820	....	92,319	783,281	865,696
April	....	110,700	....	104,855	676,539	731,767
May	....	112,340	....	122,157	530,466	720,753
June	50,676	62,697	64,352	69,223	656,621	844,685
July	41,533	98,400	108,338	....	696,170	733,181
August	54,530	111,930	168,284	....	737,774	623,263
September	114,308	105,780	144,625	9,250	750,080	662,976
October	81,836	97,170	357,122	....	762,276	....
November	71,176	92,988	365,423	....	609,089	....
December	71,094	90,528	349,551	....	729,960	....
Totals	485,153	1,191,233	1,557,695	586,094	8,056,025	6,323,227

Total to October 1, 1909—18,199,527 cubic yards.

There were also 172 cubic yards removed by steam shovels outside of the prism during October, 1908.

CEMENT UNLOADING PLANT.

System of Conveyors to Be Installed on the Wharves at Cristobal.

In order to facilitate the unloading of cement at the piers at Cristobal a contract has recently been let by the Panama Railroad Company to the Alvey-Ferguson Company of Louisville, Ky., for a system of cement conveyors. The contract was signed on August 25, 1909, and delivery of the first complete conveyor unit, for cement in barrels, is to be made at New York within sixty days from that date, and two complete units for either barrels or bags are to be delivered at intervals of thirty days thereafter until all the units are delivered. Thirty days are allowed the contractor for the installation of each complete unit after the material reaches the Isthmus. There will be six conveyor units, two for cement in bags and four for cement in barrels, and each unit is to have a maximum capacity of 1,000 bags or barrels per hour. The price of the complete system of conveyors is $29,760, and the contractor agrees to furnish any additional units, that may be required within one year, at a specified price.

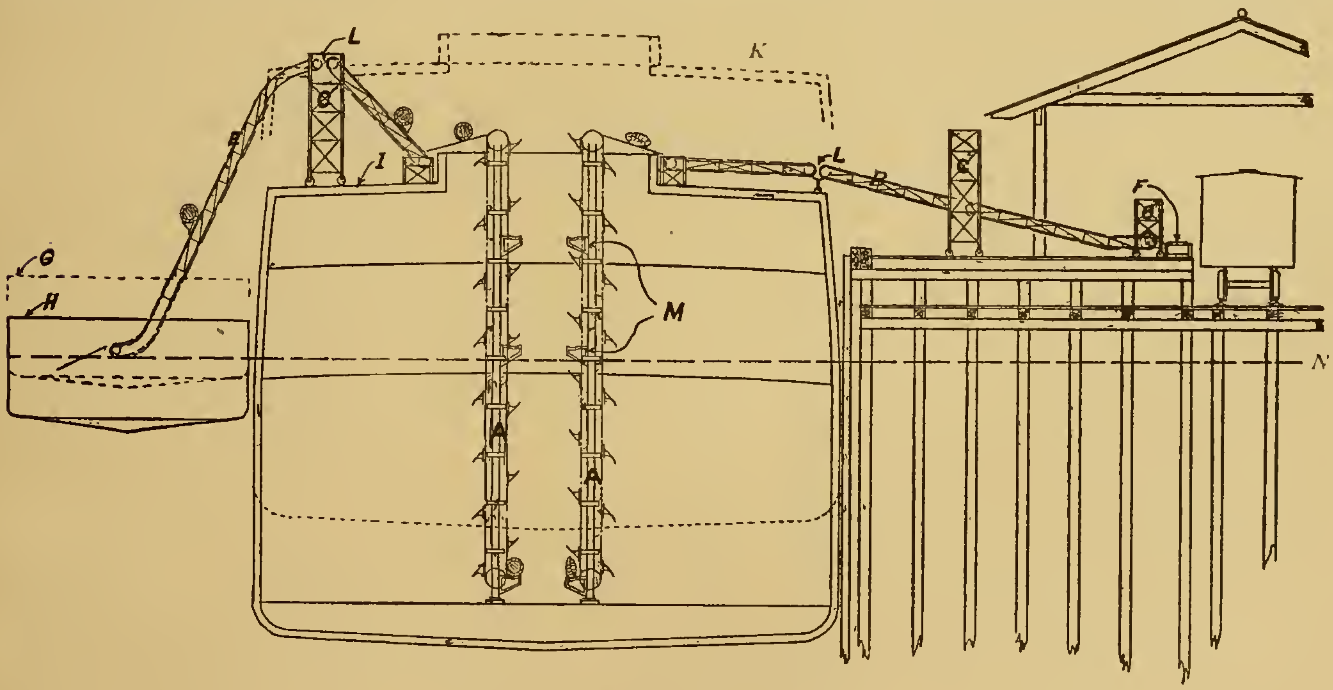
Over 4,000,000 barrels, or over 800,000 tons of cement, of the amount contracted for by the Isthmian Canal Commission in June, 1908, are yet to be brought to the Isthmus for use in the construction of the locks of the Canal, and for other purposes, most of which will be carried in the steamships *Ancon* and *Cristobal*. Each vessel makes one round trip a month between New York and Cristobal, and each has a maximum capacity of approximately 10,000 tons of cargo, usually about equally divided between cement and general freight. As the *Ancon* and *Cristobal* are twin ships, each vessel has the same arrangement of hatches, all of which have a clear opening of 17 feet 4 inches by 20 feet, except hatch No. 4, which has an opening of 19 feet 6 inches by 20 feet. It is the intention to have one unloading conveyor unit in each of six hatches and the vessel will be so loaded that the conveyor in the forward hatch, No. 1, can be used exclusively for cement in bags; those in hatches Nos. 2 and 3 for cement in barrels, that in No. 4 for bags, and those in Nos. 8 and 9 for barrels. The cement in bags will be conveyed to the pier for loading into freight cars for transportation by railroad to the locks at Pedro Miguel and Miraflores, or to any other point where it may be needed, and the cement in barrels will be conveyed to barges alongside the ships for transportation by water to Gatun.

The accompanying diagram shows the arrangement of a conveyor unit for bags and one for barrels. The unit for bags is composed of three parts: (1) a vertical elevator for raising the bags of cement from the hold to the deck of the ship, consisting of a vertical shaft on which revolves an endless chain of brackets; (2) a portable apron conveyor at right angles to the ship, built in sections 20 feet long, which conveys the bags from the deck of the ship to the pier, and which has two towers for adjusting the aprons as the vessel lightens and rises in being unloaded, there being a difference of 12 feet between loaded and empty draughts; (3) a stationary apron conveyor, built lengthwise on the pier, which delivers the bags to any point along the railroad track.

The conveyor unit for barrels is composed of two parts: (1) a vertical elevator, the same as in the unit for bags; (2) a barrel lowerer, with an adjusting tower, which conveys the barrel of cement from the deck of the ship into the hold of the barge alongside. Hand labor will be required at three points only with the conveyor system, viz., in placing the bags, or barrels of cement in position on stationary brackets, located on each of the three decks of the hold, so that the brackets on the vertical elevator can raise them; on the pier, in transferring the bags from the stationary conveyor to the freight cars, and in the hold of the barge, in removing the barrels from the lowerer and stowing them away.

Each vertical elevator in the conveyor system will be operated by a 10-h. p. electric motor, each barrel lowerer by a 5-h p. motor, each complete portable apron conveyor by a 3-h. p. motor, and each section of the stationary apron conveyor on the pier by a 7½-h. p. motor, making a total of 20½-h. p. for each bag conveyor unit, and 15-h. p. for each barrel conveyor unit. All motors will be totally enclosed and will be dust and moisture proof. Electricity for the motors will be supplied from the power house of the Gatun handling plant.

It is expected that one complete unit of the conveyor system will be in operation by December 1, and that at least two units a month will be completed and in operation thereafter until the entire system is installed. Any part of the conveyor system which may prove defective in workmanship, material, or design, within one year will be replaced by the contractor without cost to the railroad company.



SKETCH OF CEMENT UNLOADING PLANT.

A. Vertical elevator.
B. Portable apron conveyor.
C. Adjusting tower.
E. Barrel lowerer.
F. Stationary apron conveyor.
G. Barge empty.
H. Barge loaded.
I. Ship loaded.
K. Ship empty.
L. Universal joint and coupling.
M. Loading stationary brackets.
N. Surface of water.

University Club Election.

The annual election of the University Club will be held at the clubhouse in the city of Panama on Saturday, October 16. The polls will be open from 5.30 to 9.30 o'clock in the evening. After the election a smoker will be given at which only members may be present. A special train will leave for points between Panama and Colon at 12.30 o'clock the following morning.

SOCIAL LIFE OF THE ZONE.

Women's Clubs and Other Features.

There was a large attendance at the reception given by the Cristobal Woman's Club in honor of Mrs. Lorin C. Collins, president for the past two years, Mrs. Hiram J. Slifer, and the new members, at the Commission clubhouse on Wednesday afternoon, October 6. The short business meeting was followed by an address by the new president, Mrs. Slifer. Music was given during the reception, and refreshments were served.

The Ancon Woman's Club inaugurated the season by a business meeting held in the club reading room on Wednesday afternoon, October 6, at 3 o'clock. Owing to removal of officers, two vacancies were filled, Mrs. W. A. Schwab being elected second vice-president, and Mrs. Charles W. Boxer, recording secretary. Mrs. Boxer also consented to act as librarian until the post can be filled. The club library, with the librarian in attendance, is open on Monday evenings. During the past months, the number of volumes has been increased by gifts and donations. The club is discussing ways and means of extending this branch of its activities.

The Paraiso Woman's Club gave a card party on the evening of October 9. An admission of twenty-five cents was charged.

The Pacific Social Club, recently organized at Paraiso, gave its opening ball in Kangaroo hall on Saturday evening, October 2. A part of the Tivoli orchestra furnished the music. A special train brought guests from Panama and intermediate stations. Refreshments were served. This club was organized in August to give dances and promote the social life of the community and adjacent stations. Its membership includes residents of Pedro Miguel, Miraflores, and Corozal. It is expected later to extend the organization to include residents of Balboa. The officers are: R. B. Swartwout, president; A. R. Stony, secretary and treasurer. W. E. Elmwood, R. C. Smith and O. C. Kenealy constitute the committee on finance. The present membership is 35. The club will give a dance on the first Saturday evening in each month. Arrangements for special trains for members and guests will be made.

Church Notes.

The laying of the corner stone for the new church building for St. James' mission, Empire, will take place on Sunday afternoon, October 17. The rector, Rev. W. H. Decker will be assisted by Mr. W. W. Warwick and the fraternal societies of Empire. The site for the church is near the market, on land owned by the Panama Railroad Company and leased at a nominal rent. The lumber and building materials have been furnished by the Commission at cost price. The building will be erected at a cost of $750, the greater portion of which sum has been raised by subscription. The church draws on a population of about 500 West Indians.

The Empire branch of the Woman's Christian Temperance Union continued its fortnightly meetings on Thursdays during the summer months. On August 26 an election was held with the following result: Mrs. H. C. Ball, president; Mrs. Nellie M. Holcomb, vice-president; Mrs. J. C. Forman, secretary, and Mrs. Dollie Shaw, treasurer. Five new members have been admitted since August. The Empire branch was organized February 17, 1909, by Mrs. Abbie B. Hillerman, authorized organizer for the Canal Zone. The Loyal Temperance Legion, or junior auxiliary, was organized under Mrs. Ball on March 9, with 15 members. A second union was organized on March 12 at Gorgona, with Miss M. Berry at its head.

The annual meeting of St. Luke's Woman's Guild, Ancon, will take place on November 1, and during the same week the guild will give its annual reception to the members of the congregation, residing at Ancon, Balboa, and Corozal. The memorial window for the chapel is nearly completed, and the new lectern has been shipped and will be placed within a few days.

Archdeacon Bryan left last week for a visit to Barranquilla, Santa Marta and other points, in connection with the work of the Panama mission of which he is the head. He expects to be absent about a month. Rev. Arthur Peck, rector of St. Paul's, Panama, will take the duty at St. Luke's Church, Ancon, during the absence of Archdeacon Bryan.

Rally Day was observed by the Union Sunday school of Empire, on October 3, in accordance with the custom of the affiliated schools in the International Sunday School Association. There was a large attendance. A program was given, the pupils of the school taking part. The collection will be applied to the scholarship fund which the school is raising for the purpose of maintaining a pupil at the Methodist college in Panama. The day was marked by a similar observance in the Cristobal Sunday school.

The members of the Sunday school, and children residing in Corozal, were given a party at the home of Mr. and Mrs. C. P. Crafts on Saturday afternoon, October 9. Ice cream and cakes were served.

Exhibition Baseball at Ancon.

An exhibition game of baseball was played at Ancon park on Sunday, October 10, between teams made up of players from Ancon and Balboa, in which the No. 1 team was victorious by a score of 12 to 5. An admission fee was charged, and the proceeds will be applied to the purchase of new uniforms for the members of the Ancon club.

A meeting of the league organization to consider plans for the coming season will probably be called shortly.

Missing Man.

Information is desired in regard to Allen Harvey, who left Porto Rico in May, 1907, with the intention of coming to the Isthmus. Anyone having knowledge concerning him is requested to communicate with J. M. Wilkins, Las Cascadas, C. Z.

Steam Shovel and Dredgemen.

Local No. 19, International Brotherhood of Steam Shovel and Dredgemen will hold its monthly meeting in the Commission lodge hall at Empire, at 2.30 o'clock in the afternoon of October 17. S. I. LYONS,

Secretary and Treasurer.

Empire, C. Z., October 8, 1909.

Civil Service Examinations.

On October 24, beginning at 9 a. m., Civil Service examinations for the following positions on the Isthmus, will be held in the Commission clubhouse at Culebra: Clerk, stenographer and typewriter, and trained nurse.

At the same place and hour, any of the examinations offered in section 1 of the Civil Service Manual, revised to July 1, 1909, will be held, provided applications for any such examination are filed with the local Civil Service Board at Culebra, prior to the close of business on October 10.

Copies of the Manual and application forms can be obtained from the secretary of the local Civil Service Board, office of the Chairman, Culebra.

PERSONAL.

Commissioner Jo C. S. Blackburn and Mrs. Blackburn sailed on the *Ancon* on October 10 for the States. Mr. Blackburn will tender his resignation as a member of the Isthmian Canal Commission to President Taft on his arrival in Washington.

Mr. Earle J. Banta, mechanical engineer, returned from his leave in the States on the *Advance*, which arrived at Cristobal on October 9.

Dr. A. B. Herrick and Mrs. Herrick sailed for the States on the *Panama* on October 8.

Col. John L. Phillips, accompanied by his wife and daughter, sailed for the States on his annual leave on the *Ancon* on October 10.

Mr. R. W. Fenn, formerly manager of the local office of the Union Oil Company, has been transferred to the California office of the company, where he will become head of the geological department. Mr. James Stokoe, formerly of the Mechanical Department of the Isthmian Canal Commission, has succeeded him as local manager.

The petition of employes for a bathing house on Panama beach has been denied.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Culebra, C. Z., on Sunday, October 17, 1909, at 5.45 p. m. The program follows:

1	March—*Indomitable*	Fulton
2	Selection—*Mary's Lamb*	Carle
3	Caprice—*Danny and His Hobbyhorse*	Pryor
4	Waltz—*Thousand and One Nights*	Strauss
5	Medley Selection—*Haviland's Harmonies*	Halle
6	Idyl—*Forge in the Forest* (By request)	Michaelis
7	Overture—*Lustspeil*	Keler-Bela
8	*a* Bolero—*Isolina*	Labory
	b Schottische—*Four Little Blackberries.*	O'Connor
9	March—*Semper Fidelis*	Sousa

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Gatun, on Sunday, October 24.

LEGAL NOTICE.

United States of America, Canal Zone. } In the Circuit Court, First Judicial Circuit.

A petition having been filed by the Collector of Revenues for the escheat of the estate of Richard Prince, who died intestate at Balboa, on or about the 17th of November, 1908, leaving property to the value of $18.25 U. S. currency, notice is hereby given to all heirs, creditors, or other claimants of the said estate to appear at the courthouse at Ancon on or before the 10th day of December, 1909, for the purpose of filing their claims. F. H. SHEIBLEY,

Acting Circuit Court Clerk.

Commission Clubhouse at Gatun.

Contract building. Sealed proposals for labor only, will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., October 25, 1909, and then opened, for the erection by contract of a Y. M. C. A. clubhouse at Gatun. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal, and $500 when the contract is signed.

R. E. WOOD, *Acting Chief Quartermaster.*

Contract Building.

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., October 15, 1909, and then opened, for the erection by contract of a type-27 house, at Agua Clara reservoir, Gatun. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $200 when the contract is signed. R. E. WOOD,

Acting Chief Quartermaster.

OFFICIAL CIRCULARS.

Acting Head of Department of Civil Administration.

CULEBRA, C. Z., October 5, 1909.

CIRCULAR NO. 281:

During the absence of Mr. Jo C. S. Blackburn, Mr. H. H. Rousseau will have charge of the Department of Civil Administration. Effective October 10, 1909.

H. F. HODGES, *Acting Chairman.*

Annual Reports for Employes.

CULEBRA, C. Z., October 7, 1909.

CIRCULAR NO. 284:

A limited number of copies of the Annual Report of the Isthmian Canal Commission for the fiscal year ended June 30, 1909, will be available for distribution to employes on the gold roll as soon as they are received from the United States, where they are now being printed. It may be several months before this distribution is made.

A blank form of "Application for Annual Report" has been provided and may be obtained at department or division offices. Requests for copies of the report will not be considered unless made on this form, properly approved.

These reports are given to employes for their information and to stimulate an intelligent interest in the construction of the Canal, and are for distribution on the Isthmus only. Requests will be honored in the order in which they are received at this office, and when the available supply is exhausted no further copies can be had.

H. F. HODGES,
Acting Chairman.

Records of Overtime.

CULEBRA, C. Z., October 4, 1909.

CIRCULAR NO. 282:

Responsibility for all overtime, *i. e.*, "extra pay time," as regards compliance with the "eight-hour law" and regulations of the Commission, in cases where shop or other work is performed by one department or division for another department or division, rests with the head of the department or division ordering the overtime, and records of overtime shall be so kept as to show what part of the overtime of a department or division is performed at the request of another department or division.

All overtime performed by one department or division for another must be authorized in writing by the head of the department or division requesting the overtime, whenever possible, in advance, or, if the emergency does not permit, written confirmation shall follow by first mail.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Additional Ratings, Commissary Employes.

CULEBRA, C. Z., October 5, 1909.

CIRCULAR NO. 229-C REV.:

The following additional designations and rates of pay are authorized for employes in the Commissary Department only:

Salesman—$30, $35, $40, and $45 a month.

Tank and Luggerman—$25, $30, $35, $40, and $45 a month.

Laundress—7.5 cents, 9 cents, 10 cents, 11 cents, and 12.5 cents an hour.

Laundryman—10 cents, 12.5 cents, 15 cents, 17.5 cents, 20 cents, and 22.5 cents an hour.

H. F. HODGES,
Acting Chairman, Isthmian Canal Commission,
Second Vice-president, Panama Railroad Company.

Fractional United States Coins.

CIRCULAR NO. 285:

CULEBRA, C. Z., October 9, 1909.

Notice is hereby given that hereafter fractional United States coins of all denominations will be accepted in exchange for United States money of larger denominations at the Disbursing Office at Empire, or at the branch pay offices at Ancon and Cristobal, in any amounts, and will be received by the post-offices of the Canal Zone in payment for postage stamps or money orders in amounts not exceeding twenty dollars.

H. F. HODGES, *Acting Chairman.*

The Birthday of King Edward.

CULEBRA, C. Z., October 5, 1909.

CIRCULAR NO. 283:

Heads of Departments and Divisions.—In order to permit British subjects in the employ of the Commission and Panama Railroad Company to observe the anniversary of the birthday of King Edward, November 9, it is directed that their absence from duty on that day shall not affect their standing in the service, provided they report for duty on November 10.

Please note that this applies only to British subjects, and they will not be entitled to pay except for services actually performed.

H. F. HODGES,
Acting Chairman, Isthmian Canal Commission,
Second Vice-president, Panama Railroad Company.

Acting Assistant Chief Sanitary Officer.

ANCON, C. Z., October 11, 1909.

During the absence of Col. John L. Phillips, Assistant Chief Sanitary Officer, on leave, Capt. Robert E. Noble is assigned as Acting Assistant Chief Sanitary Officer, and, in accordance with paragraph 2, minutes of the 119th meeting of the Isthmian Canal Commission, held in Washington, D. C., January 21, 1907, is authorized to approve for payment all vouchers, pay rolls and public bills relating to this Department. "By direction of the Chief Sanitary Officer."

W. C. GORGAS, *Chief Sanitary Officer.*

Landscape Gardening.

QUARTERMASTER'S DEPARTMENT,
CULEBRA, C. Z., October 6, 1909.

The gardens heretofore maintained by this department have been discontinued, and landscape gardening around Commission buildings will be under the charge of the District Quartermasters.

R. E. WOOD, *Acting Chief Quartermaster.*

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal and Colon during the week ended October 9, 1909, with supplies for the Isthmian Canal Commission:

Panama, October 3, from New York, with 40 barrels alcohol for Department of Sanitation; 1,300 kegs red and white lead, 44 cases electric fuses, 1,250 bundles galvanized corrugated iron, 12,000 bundles tie plates, 250 drums calcium carbide, 5,000 gallons marine lubricating oil for stock; 9 tons electrical machinery for sand unloaders, Balboa; and a miscellaneous cargo aggregating 15,268 packages, weighing 800 tons.

Ancon, October 4, from New York, with 22,000 bags cement for Pacific Division; 16,500 barrels cement for Atlantic Division; 265 tons structural material for Pedro Miguel; 1,500 kegs wire nails for stock; and a miscellaneous cargo aggregating 40,682 packages, weighing 4,794 tons.

Atenas, October 7, from New Orleans, with 330 bags cottonseed hulls for Ancon Dairy; 47 tons castings, 12 reels unloader cable for Gorgona shops; 82 tons cast iron pipe for Gatun; 27,685 feet yellow pine lumber for car repairs; 19 barrels seacoal facing for foundry; 1 railroad water tank for Central Division.

Advance, October 9, from New York, with 3 12-inch centrifugal pumps for Pacific Division; 3 cutter engines for suction dredge at Gatun; 18 trolleys for sand unloader cranes, Balboa; 3,000 bundles tie plates for stock; 52 tons castings for steam shovel and car repairs; 78 tons structural material for moveable towers, Gatun; 165 tons steel plates, etc.; 25,000 gallons lubricating oil for stock; 30 tons ingot copper for foundry; and a miscellaneous cargo aggregating 9,320 packages, weighing 640 tons.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., October 13, 1909.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Baraty, Andrew
Baumgardner, J. H.
Clark, George
Coloma, Pedro
Connerly, B. E.
Dickinson, Miss Mary
Dogan, Daive
Dogan, L. M.
Donnelly, E. A.
Dunn, George
Ellinger, B. F. (2)
Flake, H. M.
Foster, Fred E.
Gambrill, William S.
Grosvenor, Mrs. F.
Hill, Mrs. Lyman C.
Hill, F. M.
Howell, Robert
Jacobs, W. J.
Jenkins, Charles
Mallon, James Patrick
Martin, L. D.
Martines, Fomasa
McCumber, Adriana de
Murray, W. E.
Nicholson, E. P.
Norton, Mrs. Fred
Pearay, J.
Sandersl, J. T.
Sheridan, P. L.
Stevens, F. J.
Stevens, Mrs. E W.

Vessels arriving at and departing from Balboa during the week ended October 8, 1909, were:

Arrivals—October 2, *Chiriqui*, from intermediate ports; October 4, *Chile*, from south ports; October 5, *Arica*, from Guayaquil; October 7, *Manavi*, from intermediate ports.

Departures—October 3, *Acapulco*, for San Francisco; October 5, *Mexico*, for south ports; October 5, *Chiriqui*, for intermediate ports; October 7, *Tricolor*, for Puget Sound.

LOST—On the relocated line of the Panama railroad, September 26, Canal Medal No. 1758, belonging to Mr. John Miller. Finder will please send same to Mr. F. Mears, Acting Chief Engineer of the Panama railroad, Colon.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

BOWLING TOURNAMENT.

Following is the standing of the teams in the bowling tournament up to October 6:

	Won.	*Lost.*	*Per cent.*	*Average.*
Empire	12	3	800	858 7-15
Cristobal	8	7	533	836 14-15
Culebra	7	8	466	809
Gorgona	3	12	200	781 7-15

The bowlers with the five highest averages are as follows:

	Association.	*No. games.*	*Average.*
Huson	Empire	15	183 5-15
Hinckley	Empire	15	173 4-15
Strong	Cristobal	12	173 2-12
Barte	Cristobal	15	172 8-15
Brown	Empire	15	171 12-15

The bowling games of the tournament series at Cristobal last Saturday night resulted as follows:

Cristobal.	*First.*	*Second.*	*Third.*	*Total.*
Bullard	183	180	174	537
Barlow	201	151	159	511
Louch	204	180	168	552
Collins	193	153	141	487
Strong	204	198	146	548
Total	985	862	788	2,635
Culebra.				
Lamster	183	200	171	554
Herrington	160	153	147	460
De Moll	150	157	126	433
Winters	174	149	162	485
Dougherty	186	160	184	530
Total	853	819	790	2,462

On account of the smoker at Gorgona last Saturday night the bowling tournament games between Empire and Gorgona were postponed until Monday night of this week and were rolled at Empire with the following results:

Empire.	*First.*	*Second.*	*Third.*	*Total.*
Brown	192	214	167	573
Potter	199	168	206	573
Bardelson	169	157	137	463
Hinckley	216	168	190	574
Huson	226	210	170	606
Total	1,002	917	870	2,789
Gorgona.				
Otis	152	162	128	442
King	152	156	166	474
Hayes	131	120	150	401
Haldeman	127	132	142	401
Robertson	119	159	127	405
Total	681	729	713	2,123

CRISTOBAL.

Mr. W. S. Whitbeck, a graduate of the Y. M. C. A. Training School at Springfield, Mass., has been appointed to succeed Mr. Cundiff as assistant secretary of the Cristobal Y. M. C. A. Mr. Whitbeck will arrive this week on the *Allianca*.

The Hagy Scenic Company from the United States will give a moving picture entertainment Saturday night of this week.

CULEBRA.

The moving picture show given on October 8 by the Spanish company under Hector M. Del Rio, was attended by a large audience. The quality of the entertainment was very satisfactory.

A liberal supply of new books for the pianola has been received.

The public is cordially invited to make the clubhouse their convenience next Sunday evening when the I. C. C. band will give a concert.

EMPIRE.

A full assortment of supplies has been received for the use of the camera club. Owing to lack of material there has been some delay in the construction of the dark room, but this will be pushed to early completion.

The Hagy Scenic Company presented their moving pictures to a well-pleased audience on Monday night of this week.

GORGONA.

Saturday night, October 9, a smoker was given under the direction of the Y. M. C. A. entertainment committee, Messrs. E. L. Emery, W. J. Wright, and Tom Charnley. A special train from Las Cascadas brought a number of guests from that place. The program consisted of songs, dances, sketches, piano numbers, and music by the Gorgona Band. Light refreshments were served. About 250 men were present.

The Hagy Scenic Company will give a moving picture show Thursday night of this week. This company is from the United States and the picture titles will be in English.

Judge Thomas E. Brown, Cristobal, will deliver the address at the monthly praise service on October 31.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning October 9:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	27
Chops	per lb	29
Cutlets	per lb	29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	4
Soup	per lb	6
Stew	per lb	10
Corned	per lb., 12, 14,	16
Chuck roast	per lb	14
Pot roast	per lb	16
Rib-roast, second cut (not under 3½ pounds)	per lb	19
Rib-roast, first cut (not under 3 pounds)	per lb	21
Sirloin roast	per lb	22
Rump roast	per lb	22
Porterhouse roast	per lb	22
Steak, Chuck	per lb	15
Round	per lb	16
Rib	per lb	21
Sirloin	per lb	22
Porterhouse	per lb	22
Rump	per lb	22
Tenderloin	per lb	27

MISCELLANEOUS.

Livers—Beef	per lb	11½
Calf	each	65
Shad roes	pair	40
Sausage—Pork	per lb	17
Bologna	per lb	17
Frankfurter	per lb	17
Leberwurst	per lb	17
Sweet bread—Veal.	per lb	1.20
Sweet bread—Beef	per lb	30
Oysters	keg	*90
Eggs, fresh	dozen	†34
Bluefish	per lb	15

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls,	each 75, 90,	1.00
Ducks, fatted	each	1.30
medium weight	each	90
Broilers	each	75
Turkeys.	per lb	30
Squabs	each	35
Capons	each	2.50
Geese, fatted, about 10 pounds	each	2.00
12 pounds	each	2.30

CURED AND PICKLED MEATS.

Bacon—Breakfast, whole piece	per lb	27
Breakfast, sliced	per lb	29
Ham—Sugar-cured, sliced	per lb	§25
One-half, for boiling	per lb	§21
Westphalia	per lb	45
Hocks	per lb	‡8
Sugar cured	per lb	20
Beef, salt, family	per lb	10
Pork, salt	per lb	15
Ham, boiled	per lb	28
Ox tongues	each	1.00
Pigs' feet	per lb	*8
tongues	per lb	16

DAIRY PRODUCTS.

Butter—Prints, prime quality	per lb	42
Cheese—Roquefort	per lb	45
Philadelphia Cream	each	20
Young America	per lb	22
Swiss	per lb	31
Edam	each	1.05
Camembert	per lb	28
Neufchatel	each	6
Gouda	per lb	34
Parmesan	bottle	20
French cheese in tins—Camembert, Brie, Neufchatel	1-lb tin	20
Milk, Briarcliff	bottle	**25

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	10
Lettuce	per lb	15
Potatoes, white,	per lb	†3½
sweet.	per lb	2½
Onions	per lb	3
Squash, Hubbard	per lb	5
Yams	per lb	3½
Turnips	per lb	3½
Carrots	per lb	4
Beets	per lb	5
Cauliflower	per lb	†12
Cucumbers	per lb	4
Tomatoes	per lb	5
Lemons	dozen	24
Grapes	per lb	8
Limes	per 100	80
Watermelons	each	40
Peaches	per lb	†10
Cantaloupes	each	8
Blueberries	box	18
Cabbage	per lb	*4
Apples,	per lb	*5
Oranges	dozen	12
Grapefruit	each	4
Plums	per lb	10
Pears	per lb	7

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Rainfall, October 1 to 9, 1909, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Division—			
Cristobal	6.03	8	10.43
Brazos Brook	2.35	1	6.83
Gatun	2.16	1	6.16
Bohio	2.89	1	5.82
Central Division—			
Tabernilla	2.68	1	5.90
San Pablo	2.02	1	5.16
Gorgona	3.10	1	6.66
Gamboa	3.32	1	6.77
Empire	4.55	1	9.53
Camacho	......	....	......
Culebra	2.65	6	7.35
Pacific Division—			
Rio Grande	2.61	6	7.11
Pedro Miguel	3.82	6	10.55
Balboa	1.43	5	5.06
Ancon	1.25	1	4.03
Miraflores	4.20	3	11.91
Atlantic Coast—			
Porto Bello	1.69	6	3.54
Nombre de Dios	3.33	6	6.03
Upper Chagres—			
El Vigia	2.44	5	8.32
Alhajuela	1.60	5	7.11

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ended midnight Saturday, October 9, 1909:

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft..	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Oct. 3	129.1	95.1	51.4	12.3	8.8	7.4
Monday, Oct. 4	129.0	95.1	51.4	12.6	7.2	6.1
Tuesday, Oct. 5	132.1	97.1	55.1	11.0	6.8	5.6
Wednesday, Oct. 6	129.2	95.1	55.1	13.7	7.1	5.9
Thursday, Oct 7	131 4	96.8	54.7	14.4	6.9	5.8
Friday, Oct. 8	129.1	95.5	53.6	15.5	8.3	7.1
Saturday, Oct. 9	130.4	95.7	50.9	10.6	7.0	5.9

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending October 20, 1909 (75th meridan time):

DATE.	Low.	High.	Low.	High.	Low
	A. M.	A. M.	A. M.	P. M.	P. M.
Oct. 14	....	3.49	10.01	4.10	10.13
Oct. 15	....	4.16	10.31	4.36	10.44
Oct. 16	....	4.44	11.03	5.05	11.15
Oct. 17	....	5.11	11.35	5.34	11.46
			P. M.		
Oct. 18	....	5.41	12.07	6.05	....
Oct. 19	12.20	6.15	12.24	6.42	....
Oct. 20	12.57	6.54	1.26	7.25	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO COLON.

Allianca	P. R. R.	Friday	Oct.	8
Prinz Joachim	H.-A.	Saturday	Oct.	9
Colon	P. R. R.	Thursday	Oct.	14
Clyde	R.-M.	Saturday	Oct.	16
Panama	P. R. R.	Thursday	Oct.	21
Prinz Aug. Wilhelm	H.-A.	Saturday	Oct.	23
Ancon	P. R. R.		Oct.	*
Allianca	P. R. R.	Tuesday	Oct.	26
Thames	R.-M.	Saturday	Oct.	30
Prinz Joachim	H.-A.	Saturday	Nov.	6
Atrato	R.-M.	Saturday	Nov.	13
Prinz Aug. Wilhelm	H.-A.	Saturday	Nov.	20
Tagus	R.-M.	Saturday	Nov.	27
Prinz Joachim	H.-A.	Saturday	Dec.	4
Oruba	R.-M.	Saturday	Dec.	11
Prinz Aug. Wilhelm	H.-A.	Saturday	Dec.	18
Magdalena	R.-M.	Saturday	Dec.	25
Prinz Joachim	H.-A.	Saturday	Jan.	1
Clyde	R.-M.	Saturday	Jan.	8
Prinz Aug. Wilhelm	H.-A.	Saturday	Jan.	15
Thames	R.-M.	Saturday	Jan.	22

*Ancon will probably leave New York on or about October 24.

Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

COLON TO NEW YORK.

Advance	P. R. R.	Thursday	Oct.	14
Cristobal	P. R. R.		Oct.	*
Allianca	P. R. R.	Tuesday	Oct.	19
Thames	R.-M.	Wednesday	Oct.	20
Colon	P. R. R.	Monday	Oct.	25
Prinz Joachim	H.-A.	Tuesday	Oct.	26
Panama	P. R. R.	Tuesday	Nov.	2
Atrato	R.-M.	Wednesday	Nov.	3
Ancon	P. R. R.		Nov.	†
Allianca	P. R. R.	Monday	Nov.	8
Prinz Aug. Wilhelm	H.-A.	Tuesday	Nov.	9
Tagus	R.-M.	Wednesday	Nov.	17
Prinz Joachim	H.-A.	Tuesday	Nov.	23
Oruba	R.-M.	Wednesday	Dec.	1
Prinz Aug. Wilhelm	H.-A.	Tuesday	Dec.	7
Magdalena	R.-M.	Wednesday	Dec.	15
Prinz Joachim	H.-A.	Tuesday	Dec.	21
Clyde	R.-M.	Wednesday	Dec.	29
Prinz Aug. Wilhelm	H.-A.	Tuesday	Jan.	4
Thames	R.-M.	Wednesday	Jan.	12

*Cristobal will probably leave for New York on or about October 18.

†Ancon will probably leave for New York about November 6.

NEW ORLEANS TO COLON.

Turrialba	U.F.C.	Saturday	Oct.	9
Abangarez	U.F.C.	Saturday	Oct.	16
Atenas	U.F.C.	Saturday	Oct.	23
Turrialba	U.F.C.	Saturday	Oct.	30
Abangarez	U.F.C.	Saturday	Nov.	6
Atenas	U.F.C.	Saturday	Nov.	13
Turrialba	U.F.C.	Saturday	Nov.	20
Abangarez	U.F.C.	Saturday	Nov.	27

COLON TO NEW ORLEANS.

Turrialba	U.F.C.	Tuesday	Oct.	19
Abangarez	U.F.C.	Tuesday	Oct.	26
Atenas	U.F.C.	Tuesday	Nov.	2
Turrialba	U.F.C.	Tuesday	Nov.	9
Abangarez	U.F.C.	Tuesday	Nov.	16
Atenas	U.F.C.	Tuesday	Nov.	23
Turrialba	U.F.C.	Tuesday	Nov.	30
Abangarez	U.F.C.	Tuesday	Dec.	7

COLON TO BARBADOS, CALLING AT TRINIDAD.

Clyde	R.-M.	Tuesday	Oct.	26

Sailings of the French line (Cie. Générale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month

The next sailing of the Leyland Line will be as follows: *Mercian* for New Orleans, via Kingston, Ja., on or about October 31.

The Panama railroad steamships sail at 3 p. m. from dock at Cristobal direct to New York.

A ship of the United Fruit Company's line sails from the dock at Colon, at 3 p. m., Tuesday of each week.

The steamers *David* of the National Navigation Company, and the *Taboga* of the Pacific Steam Navigation Company, leave Panama, for David, province of Chiriqui, and intermediate points, the first and third weeks of each month.

CANAL RECORD

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The Canal Record

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No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Acting Chairman's Monthly Report.

The report of the Acting Chairman of the Isthmian Canal Commission for the month of September is published in full in other columns of this issue of THE CANAL RECORD. It gives a detailed account of the progress of Canal work in all departments and divisions.

Building Gatun Locks.

The total amount of concrete laid in the locks at Gatun at the close of work on Saturday, October 16, was 25,938 cubic yards. The record is as follows:

	Cubic Yards.
August 28 (seven days)	1,298
September (26 days)	11,934
October 1 to 9 (nine days)	6,014
October 10 to 16 (seven days)	6,692

The daily average for August was 185 cubic yards; for September, 459 cubic yards; for the first nine days in October, 668 cubic yards; for the week ended October 16, 956 cubic yards.

On October 13 the thousand yard mark for a day's work was passed, and this rate was maintained until October 16, when a lack of materials and some minor mishaps at the handling plant reduced the total. The amounts laid each day in the week ended October 16 were as follows:

	Cubic Yards.
October 10	926
October 11	916
October 12	822
October 13	1,092
October 14	1,054
October 15	1,160
October 16	722
Total	6,692

In order to procure an additional supply of crushed rock for the mixers, in view of the fact that the unloading cableways are not handling as much rock as was expected, a wharf is being built on the unloading slip near the cement storehouse, at which barges can tie up. The rock will be unloaded with cranes and stored in bins from which it will be discharged by gravity into the automatic cars. The concrete gangs continue to work in two 6-hour shifts, and on October 3 Sunday work was begun.

It is expected that the cableway tower, that collapsed on September 24, will be ready for use early in November.

A battery of two 2-yard concrete mixers will be erected at the south end of the lock site for the purpose of furnishing concrete to be laid in the part of the south or upper lock approaches that is not covered by the cableways. A steam shovel is at work on foundations for the new mixing plant, and two of the mixers intended for the Pacific Division will be installed, two others having been ordered for the work in the Pacific Division.

Pedro Miguel Locks.

At the close of work on Saturday, October 16, there had been laid in Pedro Miguel Locks, a total of 5,146¼ cubic yards of concrete. Heavy rains interfered with operations to a considerable extent during the first seven days of October. The daily average amount of concrete laid for the week ended October 16 (seven days), was 248¼ cubic yards, the highest daily average made up to that time. The force worked on one Sunday, October 10. The detailed statement since the beginning of the work on September 1, 1909, is as follows:

	Cubic Yards.
September (25 days)	2,369½
October 1 and 2 (two days)	136½
October 4 to 9 (six days)	902½
October 10 to 16 (seven days)	1,737¾

Handling Plants of Pacific Division.

All of the parts for two of the four chamber cranes to be used in connection with the handling plant at Pedro Miguel Locks have been received, and work on the erecting plant at the lock site has begun. As soon as it is completed the installation of the handling equipment will be carried forward as rapidly as possible. None of the machinery for the four berm cranes has been received, but a shipment is expected soon, as reports from the factory state that the work on them is well advanced.

One of the unloading cranes at the Balboa sand dock has been placed in position, and the material for the other two is on the ground.

Heavy Rainfall in Culebra Cut.

The rainfall in Culebra Cut for the first sixteen days of October, was greater than for any whole month in the present rainy season, and almost twice as great as for the whole months of October, 1906 and 1908. At Empire, midway between the ends of the Cut, the rainfall of 15.67 inches for the first sixteen days of the month was greater than for the whole month of October, 1907, and about two inches short of the total rainfall for the whole month of October, 1905. The record for the first sixteen days at five stations along the Cut was as follows:

	Inches.
Gamboa	11.25
Empire	15.67
Culebra	12.22
Rio Grande	13.18
Pedro Miguel	13.76

An unusually heavy rainfall occurred on the afternoon of October 15, when the gauges at three stations for the period from 3 to 5 o'clock registered as follows:

	Inches.
Empire	1.91
Culebra	2.79
Rio Grande	2.77

Steel Rail for Lock Reinforcement.

The straightening of old rail, for use in reinforcement of the concrete in the locks, which was begun by heating and hammering them out, has been discontinued. About fifty tons of rail will be straightened cold in the hydraulic forming press at Empire shops and sent to the Atlantic and Pacific Divisions to be tested. The results of the tests will determine whether or not the remainder of the rails will be straightened by heating or by the cold process.

Porto Bello Rock for Pedro Miguel.

One of the stiff-legged derricks on the bank of the French canal at Mindi has been put in order to unload crushed rock from barges into cars for transportation to Pedro Miguel, where it will be used in the concrete work in the locks. The unloading plant at Mindi was used in handling rock for macadamizing the Mount Hope-Gatun road. As the output of crushed rock at Porto Bello can be made much greater than the unloading plants at Gatun can handle, five carloads, or 100 cubic yards, will be sent to the Pacific Division each day until such time as the crushers at Ancon quarry are able to supply rock. The cars that haul Chamé sand from the Pacific Division to Gatun will take back rock.

Colon Public Improvements.

The old station site of the Panama Railroad Company in Colon is being leveled and laid out as a part of the city park. All the land on which the park is located is owned by the Panama Railroad Company and is leased to the municipality for a nominal consideration. The present improvements are handled under contract with J. M. Hyatt, a resident of Colon, and will involve the expenditure of upward of $20,000.

The park, when completed, will extend north to Third street, south to Fifth street, east to Avenida de Paez and west to the spur railroad track alongside the freight house. The new section of the park will be enclosed, like the rest with a 6-foot iron picket fence, with concrete walks on either side. An additional fountain has been placed south of the band stand, making two in the park. Cuttings from the royal palm, and a collection of tree plantings, especially suited for

NOTES OF PROGRESS.

Continued.)

shade and decorative purposes, have been set out. The collection was secured from the botanic gardens at Kingston, Jamaica, and brought to Colon by Governor Melendez.

A concrete walk has been built by the Panama Railroad Company from the new station to Fifth Street, and with the completion of the new park walks, it will be possible for pedestrians to go from the Cristobal commissary to the Washington House, without crossing to the east side of Front Street. This will not only relieve the congestion on the Front Street sidewalk, but will prove a convenience to passengers alighting from trains.

A modern two-story public school building, to contain 12 rooms, will be erected by the Panama Government on Second street, opposite the children's playground. It is estimated that it will cost from $40,000 to $50,000, and bids for its construction were opened in Panama on October 18. At the present time the Colon public schools are maintained in rooms rented for the purpose in different parts of the city. When the new building is completed they will be centralized.

Operations at Gatun Dam.

The surface of the water in the hydraulic fill of Gatun Dam stands at about 30 feet above sea level, and filling by three 20-inch suction dredges continues. In the spillway the work of laying concrete in the walls below the site of the concrete dam continues, and the east wall has been completed beyond the point where the power house waste culverts will open into the spillway channel. At the southwest corner of the entrance to the spillway the concrete monolith, which will form the corner, has been laid.

North of the dam material is being dumped across the old channel of the Chagres, with the purpose of filling it, and thus keeping water from the river from backing up into the French canal and creating the cross current that has proved to be an obstacle in the towing of the sand and rock barges to the material wharves.

Chamé Sand Service.

A total of 331 carloads of sand was furnished by the sand service of the Pacific Division during the month of September. Shipments to Gatun aggregated 219 cars, each containing 20 cubic yards. One hundred and ten carloads of 12 cubic yards each were supplied to the works in the Pacific Division, one car containing 15 cubic yards to the Central Division, and one car of 12 cubic yards to the Panama railroad. The dredge *Mole* took out 3,400 cubic yards of sand at Point Chamé on September 18 and 19, and the *Gopher* began dredging another supply on the 29th.

Work at Dock No 12.

The work of filling in the land approaches to dock No. 12, which is to be built between docks Nos. 11 and 13, is in progress. Some of the dirt for the fill has been obtained from Mindi, but a spur track has been laid recently east of the main line at Mount Hope, which extends back into the small hills on the north side of the cemetery, where an abundance of suitable material is available. There is only a short haul from this point to the fill, and as the operation of dirt trains will all be within the Panama railroad yards, the necessity of employing qualified train crews will be obviated. The space between the Mount Hope railroad yard and the Folks River docks, part of which is still covered with water, is gradually being filled in, and eventually the entire area will be reclaimed. Bids for the construction of the new dock, which will probably be built under contract, have been opened and are under consideration.

Visit of the Congressmen.

The Committee on Appropriations of the House of Representatives will leave New York on the *Cristobal* on November 3, and will arrive on the Isthmus on November 10. The committee will be accompanied by members of the Senate Committee on Interoceanic Canals, and by several members of the House Committee on Interstate and Foreign Commerce. None of the Members will bring their wives or other members of their families, and the Chairman of the Committee on Appropriations has expressed a wish that no social functions be arranged for the entertainment of the party, because it is expected that all of the contemplated stay of eleven days will be required in going over the Canal work, and conducting hearings with regard to the estimates. The party will number about thirty-five persons, including clerks and stenographers. They will be quartered at Hotel Tivoli in Ancon.

Immigration of Spanish Laborers.

A steamship of the Compagnie Gènerale Transatlantique arrived at Colon on October 14 with 144 laborers from Spain. These laborers form the largest single party that has come from Spain since recruiting in that country was forbidden by Spanish law. Between September 1 and October 12 only 130 laborers came here from southern Europe, but the continued unsettled conditions in Spain have stimulated emigration. European laborers who come to the Isthmus of their own accord and apply for work with the Commission are employed at a rate of 16 cents gold per hour, and after a six months' trial, if their services are satisfactory, they are advanced to 20 cents an hour.

Knights of Pythias.

THE CANAL RECORD:

On behalf of the Knights of Pythias, I have accepted a courteous invitation from the Mayor of Panama to join in the parade and celebration on the anniversary of the independence of the Republic of Panama, to be held in the city of Panama, on November 3, 1909.

Free transportation will be furnished our members to Panama, and all members of the order of Knights of Pythias, whether members of the Canal Zone lodges or not, are cordially invited to join in the parade and celebration.

A. M. WARNER,
District Deputy Supreme Chancellor.

Las Cascadas, C. Z., October 11, 1909.

Knights of Columbus.

Panama Council, 1371, K. of C., will exemplify the first degree on Sunday, October 24, at 10 a. m., in Kangaroo Hall at Empire. All members and visiting brothers are requested to be present.

JOHN A. DALEY, *Financial Secretary.*

P. R. R. RELOCATION WORK.

About Five and One-half Miles Yet to be Completed Between Gatun and Gamboa.

About five and one-half miles of construction remain to be done in order to have standard gauge track connection over the relocated line of the Panama railroad between Gatun and Gamboa, a distance of 24 miles. The work is advancing steadily on both the north and south ends.

It is expected that track work will be completed to the Quebrancha River, four and one-half miles south of Gatun by December 1, 1909. A gap approximating five and one-half miles in length exists there and extends to a point about a mile north of Bohio ridge where track laying is in progress. Track will probably be laid as far as Rio Juan Gallegos, one and one-half miles north of Bohio ridge, by November 1, and on that date a stretch of roadbed one and one-half miles farther north will be graded and ready for the track construction crews.

By the middle of November, it is expected that track will be laid as far as station 515, about eight miles from Gatun, and by the end of December, it will reach the edge of Gatun River valley at Monte Lirio, seven miles from Gatun. From there to Bohio ridge, the roadbed is graded, but it is not up to permanent level in many places. It is planned to have the trestle over the Gatun River completed by the middle of January, 1910, and the existing gap will then be narrowed to about two and one-half miles. From Bohio ridge, south to Gamboa, a distance of 13 miles, track laying has been finished, but the roadbed will require leveling to grade in a number of places.

On the south end operations have been largely confined to making the permanent fill over the old Commissson dumps between Paraiso and Corozal on the east side of the present main line. This work has reached a point a little north of the Cardenas River, between Miraflores and Corozal, where it will be necessary to make a change in the location of the present main line tracks to make room for the relocated line. These tracks will be carried a little west of their present location for a length of half a mile, and will occupy a temporary roadbed three or four feet above the surrounding level. A trestle 22 feet high has been constructed over the present tracks to enable dirt trains to make the necessary fills on the west side. The relocated line will be built between the new and old locations of the present main line, will cross the Cardenas River on a concrete arch bridge and will join the old line at a point a little north of the Corozal hotel. From there into Panama the road is already permanent.

The permanent track laid on the new line up to October 1, 1909, aggregated 111,297 linear feet, or about 21 miles.

Obituary.

James C. Worrall, a trainman employed in the Central Division transportation department, residing at Pedro Miguel, died on Sunday, October 17, at No. 223 Avenue B, Panama. He was 25 years old, married, and had been on the Isthmus since February, 1908. A brother, L. P. Worrall, resides at Empire. The funeral will be held at Ancon, Sunday, October 24, under the auspices of the Independent Order of Kangaroos.

TRANSISTHMIAN TELEGRAPH.

Panama Railroad Company Building New Lines for the Republic of Panama.

A contract has been entered into between the Panama Railroad Company and the Republic of Panama, providing for the construction and maintenance of telegraph circuits between Panama and Colon, and between Panama and Empire, for use of the Panama Government. The contract, which was signed on August 20, 1909, by Hiram J. Slifer, General Manager, on the part of the railroad company, and by Ernesto T. Lefevre, Director of Telegraphs, on the part of the Panama Government, was approved by President Obaldia on August 31, 1909, and reads in part as follows:

WHEREAS, The Republic of Panama desires that a telegraphic service be installed and maintained in and upon and as an integral part of the line of telegraph poles and wires belonging to the Panama Railroad Company that cross the Isthmus of Panama; therefore, the contracting parties have mutually agreed upon the following clauses:

First—The Panama Railroad Company agrees to erect and maintain two copper telegraph wires, standard No. 10, between the cities of Panama and Colon, and two copper telegraph wires, standard No. 10, between the city of Panama and the town of Empire, which service should be installed on and as a part of the actual line of posts and telegraph wires of the Panama Railroad Company, and be maintained in good condition of service by the Panama Railroad Company for the exclusive use of the Government of Panama. It is understood and agreed that no telegraphic message shall be received for transmission by the Government over the lines herein provided for, at a rate lower than that charged by the Panama Railroad Company and the rate for general commercial messages from time to time, and whenever it may be deemed convenient, as may be mutually agreed upon by the contracting parties.

Second—The Republic of Panama agrees to pay to the Panama Railroad Company, as the price agreed on for the installation of the telegraph service above provided for, the sum of ten thousand dollars ($10,000), United States currency, and it is understood that the said Government shall not be obligated to pay any other amount for rent, but the sum of $10,000, as expressed in this contract.

Third—The Republic of Panama, moreover, agrees to pay to the Panama Railroad Company its proportion of the cost of repairs for the maintenance and changes in the line which may become necessary from time to time, and said payment will be computed, taking as a basis the proportion of the wires used by the Republic of Panama to the total number of wires installed on the telegraph line in which the repairs or changes of place are required. The bills for maintenance and repairs shall be sent monthly by the railroad company to the Director General of Posts and Telegraphs of the Republic of Panama, for approval and payment. This contract, which is to remain in force fifty (50) years, requires for its validity the approval of the President of the Republic of Panama.

The work of placing a fifth arm on the railroad company's poles, to carry the new circuits, is in progress and will be completed in a short time. The remaining space on this arm will be utilized in the extension of the railroad's telephone and telegraph service by the stringing of a new No. 9 copper circuit from Panama to Colon, and a new No. 10 copper circuit from Empire to Colon.

Upon the completion of the telegraph circuits for the Panama Government, it is proposed to abandon the telegraph office which has been maintained for several years in the old Administration Building in Panama. The Panama Government's telegraph department will establish offices of its own in Panama and Colon for the transaction of official and commercial business, and will also have an office and switching station at Empire. It will construct a new No. 10 copper circuit from Empire to Chorrera, which will connect with the transisthmian line at Empire, and with its up-country line at Chorrera. The Panama Government has also had built recently, by contract, a new telegraph and telephone line carrying a No. 10 closed copper circuit from the Rio Lagarto, near Chamé, to Santiago, capital of the province of Veraguas, which forms part of the main line from Panama to David.

Under the terms of the contract, the maintenance of the new circuits from Panama to Colon, and from Panama to Empire, including the testing out and clearing of all troubles, will be handled by the railroad company's telephone and telegraph forces, but the Panama Government will assume its proper proportion of such expense.

The latter is prohibited from doing a telephone business over the new circuits, but the contract permits of the transaction of commercial telegraph business, with the understanding that the existing rates, which are based upon a charge of 25 cents, United States currency, for a 10-word message, including the address, and two cents for each additional word, shall be maintained. Only through business can be handled under the new arrangement, and no messages may be transmitted over the Panama Government's circuits to points along the railroad in the Canal Zone. Persons in Panama or Colon, desiring to transmit telegrams to these points will file them at the offices of the Panama Railroad Company in either city.

An agreement has been reached between the Panama Government and the United Fruit Company, whereby the latter will establish wireless stations at Colon and Bocas del Toro similar to the one the company maintains at Limon, Costa Rica. Through its new land telegraph facilities, and the proposed wireless system, the Panama Government will be able eventually to route messages from Panama to Bocas del Toro, Limon and other points. Under the agreement with the fruit company, the Panama Government is permitted to fix its own rates for wireless messages.

Civil Service Examinations.

The Civil Service examinations, previously announced in THE CANAL RECORD, will be held on Sunday, October 24, beginning at 8.45 a. m., instead of at 9 a. m., and in the I. C. C. hotel at Culebra, instead of the Commission clubhouse.

Competitors, who file their formal applications prior to the close of business on Thursday, the 21st inst., will be admitted to the examination without further notice, but no one will be admitted whose application is not filed prior to the date here specified.

All competitors will be expected to provide their own pencils, pens, ink, and erasers. Competitors in typewriting, who use any machine other than the Underwood, must furnish their own typewriters. Underwood typewriters will be provided by the examining board.

JOHN K. BAXTER,
Secretary, Isthmian Civil Service Board.

Culebra, C. Z., October 18, 1909.

University Club Officers.

At the annual meeting of the University club in Panama held on October 16, the following officers were elected:

President, A. S. Cooper; first vice-president, F. B. Fearon; second vice-president, L. K. Rourke; secretary, J. E. Marsh; treasurer, E. C. McFarland; governors, Malcolm Elliott, J. H. Flynn, jr., W. M. Wood, C. C. Metcalf, John Ehrman, W. E. Deeks, A. E. Bronk. Hon. José Domingo de Obaldia, President of the Republic of Panama, was made honorary president, and Mr. Joseph Gales Holcombe was made honorary vice-president.

Killed by Lightning.

During the heavy rain storm in Culebra Cut on the afternoon of October 15, Licardo Salas, a Spanish laborer, was struck by lightning and killed. He was 26 years of age, was born in Aridillos, province of San Tadir in Spain, and had been on the Canal Zone two years and nine months. A brother living at Paraiso survives him.

The accident occurred shortly after 3 o'clock. Seven men had taken refuge from the rain under signal tower E at Cucaracha. The lightning struck the tower and grounded along an electric wire. Salas was sitting with his back to this wire and was killed instantly. Seven other men, one of them, a white foreman, and the others, laborers, were stunned. Three of them were taken to Ancon Hospital, but were discharged within three days, one of them on the day of the accident. The tower was not damaged.

Policeman Struck by a Train.

Leo A. McIntire, a first class policeman on the Canal Zone police force at Las Cascadas, was struck by the locomotive of passenger train No. 3, due at that place at about 6.50 a. m., Monday, October 18. He had started to walk along the track to Buena Vista, and when the accident happened had reached a point a little north of Las Cascadas where there is a sharp curve. He was taken to Ancon Hospital on the same train, where it was found that he had sustained internal injuries, together with a scalp wound. His condition was reported critical on October 19.

Convicted of Manslaughter.

Secundino Pinedo, a Colombian, who inflicted fatal injuries on his countryman, Manuel Montalvo on August 14, 1909, and whose trial for murder in the court of the Second Judicial Circuit at Empire on September 22, resulted in a disagreement by the jury, appeared before Judge Wesley M. Owen at Empire on Tuesday, October 12, and pleaded guilty to manslaughter. He was sentenced to serve one year in the Canal Zone penitentiary.

Kangaroo Ball.

Cristobal Court No. 8, I. O. P. K., will hold its first annual ball at Lincoln House ballroom, Colon, Thanksgiving Eve, November 24, 1909. All Kangaroos in good standing, with their wives and lady friends, are cordially invited to attend. Special trains will be provided to and from Colon, the schedule for which will be announced later.

C. D. HOFFMAN,
Comptroller, Court No. 8.

Cristobal, C. Z., October 12, 1909.

The proposed visit of the members of the Louisiana, Mississippi and Arkansas Press Associations to the Isthmus, which was to have been made this month, has been postponed.

Launch Service to Taboga.

The steamer *Sanidad* leaves the dredge landing at Balboa at 9 o'clock Tuesday, Thursday and Saturday mornings. On the return trip it arrives at Balboa about 4.30 p. m. in time to make connections for the 5.30 train at Panama.

CANAL WORK IN SEPTEMBER.

Monthly Report of the Acting Chairman to the Secretary of War.

CULEBRA, C. Z., October 14, 1909.

The Honorable the Secretary of War,
Washington, D. C.

Sir—I have the honor to submit the following report of operations on the Isthmus for the month of September, 1909:

The following table summarizes the principal items of construction work accomplished by the Atlantic, Central and Pacific Divisions during the month:

Item.	Unit.	Atlantic.	Central.	Pacific.	Total.
Work excavation, dry	Cubic yards	111,382	1,471,796	80,628	1,663,806
Work excavation, wet	Cubic yards	410,574		696,865	1,107,439
Total work excavation	Cubic yards	521,956	1,471,796	777,493	2,771,245
Plant excavation, dry	Cubic yards	2,445		46,982	49,427
Plant excavation, wet	Cubic yards	15,713			15,713
Total plant excavation	Cubic yards	18,158		46,982	65,140
Total Canal excavation	Cubic yards	540,114	1,471,796	824,475	2,836,385
Explosives used	Tons (2240 lbs)	31.23	360.20	28.90	420.33
Rock drilling	Feet	65,297	365,660	86,385	517,342
Track removed	Miles		10.20		10.20
New track laid	Miles	3.36	13.90	4.96	22.22
Material placed in dams	Cubic yards	411,652		39,631	451,283
Rock crushed	Cubic yards	19,215	7,981	4,348	31,544
Cement used	Barrels	18,716		3,033	21,749
Concrete placed	Cubic yards	17,007		3,000.50	20,107.50
New roads built	Miles				
Water mains laid	Feet	3,560	4,382	2,639	10,581
Sewers laid	Feet	2,024	372	864	3,260
New drains and ditches dug	Feet		396	525	921
Average daily force		6,178	9,159	4,141	19,478
Rainfall, average	Inches	10.86	7.22	3.86	10.07

Atlantic Division.

GATUN LOCKS.

Excavation—Excavation was continued during the month in all three chambers of the lock, but the principal work was done in the middle chamber.

Receiving and Issuing Material—During the month, all of the cranes in the cement shed were more or less modified by transferring the cages to a position under both girders, taking off foot bridge and by stiffening trusses in the case of crane No. 2. At the end of the month, four cranes were ready for operation. The modification of the automatic cars was continued, and the number of cars kept running during the month averaged approximately ten.

Concrete Mixing Plant—Various attempts were made during the month to render the connection between the superhopper and the mixers more satisfactory, but the results were not successful.

Industrial Road—This road was operated successfully during the month.

Cableways—The operation of the unloading cableways was unsatisfactory during the month from the standpoint of material delivered. The total amount of material unloaded by the cableways during the month was about 20,000 cubic yards. One strand on one of the duplex unloading cableways was out of commission during the entire month, due to broken buckets. The lock cableways were operated successfully, although the brakes as originally designed were not satisfactory. The head tower of lock cableway No. 2 collapsed on September 24, under the following conditions:

Cableway No. 1, which had been working over the northern line of monoliths in the forebay, was successfully moved to a position over the southern line of monoliths in the forebay. Cableway No. 2 was then started south to move it into the position originally occupied by cableway No. 1. The tail tower was moved by a five-part tackle, the running line being led through a snatch block and attached to the hook on the carriage of the south strand of cableway No. 2. The head tower was moved by the winch provided and designed for that purpose. The head and tail towers were moved successively 12 or 15 feet at a time. Before the accident occurred, the tail tower had been moved 15 feet south of the position occupied by the head tower. The movement of the tail tower was then stopped. The head tower was next moved south with its own power and was moving quietly and slowly, having reached a point almost abreast of the tail tower, when, without warning, the rear legs below the platform supporting the cableway machinery collapsed, and the tower settled to the west, moving downward until it came to rest on the concrete counterweight. As the tower settled backward, both traversing lines parted; the main cable, the button lines, and the hoisting lines did not part. While the towers were being moved there was no weight on the main cables other than the carriages and the weight of the various cables. The tail tower moved easily, but the head tower moved with some difficulty, due to settlement in the track. The settlement, however, was fairly uniform and was no greater than had previously occurred when the towers were being moved. The collapse of the rear legs and the consequent settlement of the tower resulted in the deformation of all of the members of the structure below the machinery platform to such an extent as will require their removal and the replacement of new members.

Concrete Work—The laying of concrete in the forebay and in the upper lock was continued during the month. The steel forms for culverts, and the cast iron forms for orifices, proved satisfactory. Four side wall culverts were erected complete, and six partially assembled. The work on the telltale system was continued, and 1,550 feet of tile drain in the system were laid.

New Power Plant—The plant generally was kept in operation, although several mishaps occurred during the month. The amount of power generated was 114,350 k. w. hours.

GATUN DAM.

Construction during the month increased the total fill by 402,152 cubic yards, making the total at the end of the month, 4,258,435 cubic yards.

Stripping—Stripping of the east valley was extended during the month up both hillsides, the work being performed by loading Decauville cars by hand and dumping the material just outside of the limits of the stripped area. The work extended the stripped area by nine-tenths of an acre. The total area stripped at the end of the month was 198.3 acres.

Hydraulic Fill—Allowing 10 per cent for loss, the hydraulic fill in the dam was increased by 238,442 cubic yards, making the total at the end of the month 1,483,032 cubic yards.

Enrockments—The material received from Bas Obispo, Buena Vista, Bohio, the Locks, Mindi, and the spillway, amounting to 163,710 cubic yards, was placed on the north and south toes of the dam. The total dry fill at the close of the month was 2,775,404 cubic yards.

Trestles—The trestle at the head of the spillway at elevation plus 30 was extended during the month a distance of 674 linear feet, and the trestle on the south toe beyond the old Chagres River was extended toward the west end of the dam a distance of 508 linear feet.

GATUN SPILLWAY.

Excavation—Excavation at the head of the spillway was continued by steam shovel No. 51, the output being 7,586 cubic yards. An additional amount of 712 cubic yards was handled by cranes Nos. 44 and 48 in preparing foundation for concrete side walls and floor. The total spillway excavation at the close of the month was 1,309,314 cubic yards.

Concrete—Work was continued on the east and west walls north of the spillway dam and on the east face wall and floor south of the dam. The total amount of concrete placed during the month was 3,741 cubic yards, making the total at the end of the month 46,031 cubic yards.

HARBOR AND CHANNEL SECTION.

Dry Excavation Below Sea Level at Mindi—During the month, 19,240 cubic yards of earth and 42,197 cubic yards of rock were removed from the prism.

Dredging from the Ocean to Mindi—Four dredges removed from the prism 410,574 cubic yards of earth during the month. In addition, the dredge *Caribbean* removed 26,870 cubic yards of earth from the approach channel to Cristobal Harbor, and 19,445 cubic yards of earth from in front of Pier 11. The *Caribbean* was in the drydock, undergoing general repairs, from September 15 to September 27, inclusive. The dredge *Mindi* also removed 8,500 cubic yards of earth and 1,550 cubic yards of rock from the approach channel, 6,209 cubic yards of earth and 19,562 cubic yards of rock from in front of Pier 11, and 800 cubic yards of earth and 800 cubic yards of rock from the drydock slip. On September 30, 40 feet of water could be carried from 0 to mile 2 plus 3,800 feet; 30 feet to mile 3 plus 2,200 feet, and 20 feet to mile 5 plus 200 feet.

PORTO BELLO.

General miscellaneous mechanical and repair work was continued during the month. During the month, 30,699.5 cubic yards of rock were loaded into cars for crushers and fills, and 9,100 cubic yards of earth were removed hydraulically from the quarry. Including material cast over and removed by hand to strip rock, and in track work, the total yardage for the month was about 46,556 cubic yards.

NOMBRE DE DIOS.

The dredge *Chagres* was engaged for the first half of the month in dredging the north end of island No. 2 for the purpose of getting into lake No. 2. The channel to lake No. 2 was completed on September 24. The suction dredge *Nombre* was undergoing repairs and alterations the greater part of the month, and on the night of September 27, during a heavy rain squall, sank in lake No. 1. The work of raising the dredge was in progress at the end of the month.

MUNICIPAL ENGINEERING AND BUILDING CONSTRUCTION.

Building and municipal work were satisfactorily continued during the month.

Central Division.

During the month, the total amount of material excavated in the Central Division was 1,471,796 cubic yards, of which 364,147 cubic yards were classified as earth and 1,107,649 cubic yards as rock. Of this quantity, 1,454,287 cubic yards were removed by steam shovels, 16,714 cubic yards by hand, and 795 cubic yards by sluicing fill in the Obispo Diversion. The quantity of material removed from the Canal prism was 1,471,001 cubic yards, while 795 cubic yards were sluiced in the Obispo Diversion.

The daily average number of steam shovels at work during the month was 46.60, as compared with 46.73 for the month of August.

For comparison with the work done by steam shovels during the corresponding month of the previous year, the following table has been prepared:

Period.	Excavated by shovels.	Classification of material.		Av. No. of shovels at work.	W'kg days.	Av. yards per shovel day.
		Rock.	Earth.			
1908:	*cu. yds.*	*cu. yds.*	*cu. yds.*			*cu yds.*
Sept...	1,465,805	1,048,136	417,669	49.68	25	1,180.2
1909: Sept...	1,454,287	1,104,505	349,782	46.60	25	1,248.3

Rainfall at Empire: 1908, 9.75 ins.: 1909, 7.22 ins.

The above table shows that the average output per shovel day was almost 6 per cent greater in September, 1909, than in the corresponding month of the previous year.

During the month, 227,024 cubic yards of material excavated from the prism were transported to the relocation of the Panama railroad at Caimito and Santa Cruz and dumped as filling in the embankment for the new roadbed, the total at the close of the month for this purpose being 1,914,377 cubic yards.

During the month, 48,500 cubic yards of earth from Buena Vista, and 35,275 cubic yards of rock from Bas Obispo, were transported to Gatun for use in the construction of the dam. At the end of the month, 104,200 cubic yards of earth and 521,288 cubic yards of rock had been transported for this purpose.

The daily average number of laborers at work was 8,258, while the average number of gold men at work was 901.

Pacific Division.

DISTRICT NO. 1—LOCKS AND DAMS.

The total excavation during the month amounted to 161,499 cubic yards. During September, no yardage was added to the prism of the west dam at Pedro Miguel, leaving the total, as for August, 169,946 cubic yards.

At Miraflores, 9,131 cubic yards of dry filling were added to the toe of the west dam, increasing the total to 426,661 cubic yards; 30,500 cubic yards of hydraulic filling were added to the core of the west dam, increasing the total to 111,640 cubic yards; and 6,032 cubic yards of dry filling were placed in backfill, increasing the total to 18,282 cubic yards.

At Pedro Miguel, Miraflores, and Ancon quarry, regular operations were continued. Concreting in the lower guide wall at Pedro Miguel was begun, and continued intermittently during the month. Progress was retarded on account of the foundations not being fully prepared and the installation being incomplete.

DISTRICT NO. 2—DREDGING.

Five dredges were in operation during the month, the amount of material excavated by each being shown in the following table:

Dredge	TYPE.	CUBIC YARDS.		Remarks.
		Work.	Plant.	
Culebra	Suction	307,681	16,890	Scow measurement
Mole...	Ladder	105,749	....	Place measurement
Badger.	Ladder	85,908	....	Place measurement
C'denas	Dipper.	31,953	....	Place measurement
Marmot	Ladder	114,795	....	Place measurement
Total.	....	646,086	16,890	

The work of clearing on the Canal line was continued. An area of 503,560 square feet was cleared during the month, and an area of 63,000 square feet was grubbed of stumps, roots and brush, which were piled and burned.

The dredge *Mole* was taken to Chamé on September 18, and after dredging 3,400 cubic yards of sand on that and the following day, she was returned to the work in the Canal prism. The *Gopher* was taken to Chamé, September 29, and dredged sand on that and the following day.

During the month, 4,380 cubic yards of sand were supplied to the Atlantic Division, 15 cubic yards to the Central Division and 12 cubic yards to the Panama Railroad Company.

The necessary work in connection with the maintenance of equipment was satisfactorily performed.

DISTRICT NO. 3—MUNICIPAL AND BUILDING WORK.

Building and municipal work was continued during the month. A thin layer of clay was spread over the entire length of the Corozal-Panama road; two road rollers were kept at work rolling the clay in, 10,925 linear feet being completed at the end of the month. Clay was spread on the Corozal-Pedro Miguel road for a distance of 3,425 linear feet, and upon 2,600 linear feet of road in Corozal proper.

The Ancon pumping and steam plant and the Rio Grande rock crusher were successfully operated.

Mechanical Division.

The usual work of this Division was satisfactorily performed during the month.

Relocation of Panama Railroad.

During the month, 187,484 cubic yards of material were excavated, making the total excavation at the close of the month 1,957,557 cubic yards, and 310,193 cubic yards of material were placed in embankment, making the total for this purpose at the end of the month 5,910,794 cubic yards.

During the month, 1,605 linear feet of temporary trestle were driven, and numerous small culverts were completed; 1,568 linear feet of permanent track were laid, making the total at the close of the month 121,708 linear feet.

The force of laborers during the month averaged 2,486 men.

Quartermaster's Department.

The total effective working force on September 29, including the Panama railroad and the Commissary forces, was 35,210.

The steamship *Ancon*, which arrived on September 2, brought 1,500 Barbadian laborers to the Isthmus. This was the largest single shipment of laborers ever brought to the Canal Zone. The steamship *Oteri* put into the port of Colon and on September 25 sailed for Barbados, carrying a total of 196 passengers, of whom 134 were European laborers. Since April, between 900 and 1,000 European laborers working for the Commission have been taken away by the representative of a railroad enterprise in Brazil.

Although the total effective force working for the Comission was the largest on record, the gold force showed a slight decrease, indicating that the general tendency is toward a reduction in the number of supervisory positions.

Subsistence Department.

The operation of the Hotel Tivoli during the month showed a loss of $1,727.44. There was a loss of $1,741.71 on the operation of the line hotels, and a profit was made on the operation of the mess halls and kitchens. The net operations of this department for the month showed a profit of $2,487.95.

Department of Civil Administration.

COURTS.

The Supreme Court of the Canal Zone disposed of one criminal case during the month. In the circuit courts, 13 civil and 24 criminal cases were disposed of, and in the district courts 92 civil and 545 criminal cases were disposed of.

DIVISION OF POSTS, CUSTOMS AND REVENUES.

The total net revenues of the Canal Zone for September were $18,371.24. Collections of the Division of Posts, Customs and Revenues amounted to $17,634.41, and collections on account of court fines, costs and fees were $3,383.87. Money order sales during the month amounted to $417,809.89, of which amount $312,026.49 was payable in the United States and foreign countries other than Martinique, and $273.50 in Martinique.

Seventeen vessels entered at and twenty vessels cleared from the port of Ancon, and seventeen vessels entered at and sixteen vessels cleared from the port of Cristobal.

DIVISION OF POLICE AND PRISONS.

The number of arrests during the month was 559, as compared with 535 in August. There were 134 prisoners confined in the district jails at the close of the month. Four convicts began penitentiary sentences during the month, 7 were discharged at the expiration of their sentences, and on September 30 there were 120 convicts confined in the penitentiary. The cost of guarding and subsisting the convicts was $2,578.96, and the value of the work performed by them was $1,751.10.

DIVISION OF PUBLIC WORKS.

The regular inspection and maintenance work of this division was performed during the month. In the city of Panama the average daily consumption of water was 966,966 gallons, and in the city of Colon 665,657 gallons.

DIVISION OF FIRE PROTECTION.

Thirteen fires were reported during the month, 9 being in the Canal Zone, 3 in Colon and 1 in Panama. The estimated value of Commission and Panama railroad property involved was $97,505, and the damage $851.12; of private property, the estimated value was $2,100, and the damage $97.

DIVISION OF SCHOOLS.

It was decided that October 1, the day provided for the opening of the Canal Zone schools, should be devoted to a preliminary meeting of teachers, and that the opening of the schools should be postponed until Monday, October 4.

An examination was held at the Ancon school building on September 17 for colored school teachers. Of the 28 applicants that presented themselves, 15 qualified for the service.

Department of Sanitation.

During the month of September the health conditions of the force continued satisfactory. The following table shows the death rates for September, 1909, both among employes and the general population, as compared with the same month in previous years since American occupation:

Annual average per thousand.	I. C. C. and P. R. R. employes	Whole population.
September, 1904	14.31	....
September, 1905	32.00	52.31
September, 1906	57.34	54 54
September, 1907	28.63	32.93
September, 1908	12.78	24.91
September, 1909	12.76	19.01

During the past four months there has been a marked decrease in the number of cases of typhoid fever. In June there were 78 cases, in July 42 cases, in August 15 cases, and in September 8 cases.

The malarial rate was small as compared with the same month in former years. For September, 1904, the annual rate was 118 per thousand; for September, 1905, 533 per thousand; for September, 1906, 882 per thousand; for September, 1907, 554 per thousand; for September, 1908, 375 per thousand, and for September, 1909, 252 per thousand.

The following table shows the "constantly sick" rate among the force as compared with former years:

	Per thousand.
September, 1905	23 00
September, 1906	37.74
September, 1907	27.78
September, 1908	25.09
September, 1909	22.34

No cases of yellow fever, bubonic plague or smallpox occurred on the Isthmus during the month. Respectfully,

H. F. HODGES, *Acting Chairman.*

It has been decided by the Board of Governors of the Tivoli Club that the dance scheduled for Saturday, October 23, will not be held. The next dance scheduled is for November 13.

FEDERATED WOMEN'S CLUBS.

Seventh Meeting Held at Gatun—Progress and Plans.

The seventh meeting of the Canal Zone Federation of Women's Clubs was held at Gatun on Tuesday, October 12. A special train carried the Federation officers and delegates from Cristobal at 1 o'clock, and the club women from points south of Gatun were given a special coach attached to the rear of the train leaving Panama at 10.45 a. m. A committee of the entertaining club met the visitors and escorted them to the Commission hotel, where lunch was served.

At 2 o'clock the company assembled in the Commission chapel, which was decorated with palms and the colors of the Gatun club, red and white. The meeting was called to order by the president, Mrs. Thomas E. Brown, jr. Each of the seven federated clubs was represented by four delegates, these, with the officers and chairmen of committees constituting a voting number of 34. Beside this number, there were present more than fifty club women and guests of the Federation. On behalf of the Gatun club, Mrs. W. H. Stoddard welcomed the delegates. The reports of the officers were followed by the president's address, in which she urged the unifying of interests and sympathy in the Zone clubs.

The reports of the club presidents gave a survey of the existing conditions in the various organizations. The Ancon club was represented by Mrs. J. L. Storla who reported the opening of the club season on October 6. The principal activity of the club is its library, which has been extended during the past few months. The reading room is open daily, and the library on Monday evenings. The business meetings of the Pedro Miguel club are held in the clubroom, over the Commission hotel, semimonthly, alternating with the social meetings, which are held at the homes of members. The history of Panama has been taken up for study. The club has recently donated a box of books and magazines to the prisoners' library in the Zone penitentiary. Preparations are being made for a bazaar, to be held in December, for the purpose of raising funds toward a Christmas entertainment. Mrs. W. S. Jennings is the acting president.

On September 22, the Paraiso club resumed meetings, after a vacation extending over several months. In her report, the president, Mrs. W. E. Ellinwood, outlined the difficulties existing in the Zone clubs, the chief of which is the frequent transfer of families, thus reducing the club membership, and often causing serious loss by removing active and efficient workers.

The club year at Empire was opened September 30. The matter of raising funds for the treasury is the one with which the club is immediately occupied. This will probably take the form of a bazaar or sale. Mrs. E. C. Mills is the president.

Mrs. Charles H. Toberer, president of the Gorgona club, reported that the election of officers will take place on October 21, following which the plans of the year will be made. Mrs. W. H. Stoddard, acting president of the Gatun club, stated that monthly business meetings have been held during the vacation. The regular weekly meetings of the club were resumed in September. The children's library has been increased by a gift of books from club women in the States. The library is kept in the schoolhouse and is open twice a week, when a member of the club is in attendance.

Through its education department, the Cristobal club has equipped and presented a public playground to the city of Colon, which was formally opened on August 25. The department was greatly assisted in this work by the cooperation and assistance of the Panama Railroad Company. Playground equipment for American children has also been placed on the point at Cristobal. A drinking trough for horses has been placed in Cristobal, near the clubhouse, by the philanthropy department. The home department is planning for a bazaar, which will be held before Christmas. It is proposed to offer inexpensive articles for Christmas gifts, and a special booth, containing toys and articles for children, will be a feature. The president of the club is Mrs. Hiram J. Slifer.

The work of the Federation committees is outlined as follows: The art and literature committee, with Mrs. Henry Ropes Trask as chairman, holds the art portfolios and books in reference to art belonging to the Federation. The committee will advise and assist the clubs, outlining programs or courses of study. The home committee, Mrs. H. J. Slifer, chairman, assists with programs along the line of household economics and domestic science, and will also compile a cook book to be published and placed on sale by the Federation. The education committee is working on the kindergarten problem in the Canal Zone, under the direction of the chairman, Mrs. J. L. Storla. Mrs. Ralph Blunt, acting chairman of the committee on library extension, has outlined a practical plan for a children's traveling library. The Cristobal and Gatun clubs have turned their libraries over to this committee. All the clubs having libraries are requested to send in a list of the juvenile books which they are willing to place in the traveling library. The teachers of those public schools in the Zone in which libraries have been established, will be asked to cooperate in this work. It was suggested that each club should contribute either in books, or by subscription, for this purpose. The botanical committee will be active in collecting new specimens for the Field Columbian Museum, Chicago. The chairman, Mrs. I. P. Eppelsheimer proposes to call a meeting of her members in the near future, in order to give specific instructions regarding the treatment of specimens.

Miss G. Marie LePrince was appointed chairman of the forestry and waterways committee at the meeting of the Federation in January. Miss LePrince is not on the Isthmus, but she will continue in the office for the present and is active in the work. Her method is to interest school children in the work of the Canal and she has offered a prize to the children of the Canal Zone schools, under the high school grade, for the best essay on the "Waterways of the Canal Zone."

Mrs. E. C. Mills, Empire, is acting chairman of the Canal Zone Federation badge committee, and all matters pertaining to badges may be referred to her.

The Cristobal club extended an invitation to the Federation for the January meeting. It is expected that the Federation will entertain a guest from the States on that occasion. The delegates authorized votes of thanks to the Panama Railroad Company for courtesies extended, and to various individuals and clubs in the States for gifts. Mrs. Lorin C. Collins, honorary president, made a few remarks at the close of the meeting.

A short musical program was given by the following ladies, all residents of Gatun: Mrs. Natt Johnson, piano solo; Mrs. Brown and Mrs. Alice P. Schreiber, songs; Mrs. George McPherson, recitation, and Miss Maria Elise Johnson, violin selections. The accompanists were Mrs. Edward Keator and Miss Virginia Chinn. Mrs. Mark Martin was chairman of the program committee.

Refreshments were served by the Gatun club.

PERSONAL.

Maj. Eugene T. Wilson, Subsistence Officer, returned from his annual leave in the States on the *Magdalena* on October 10.

Lieut. Frank O. Whitlock, Assistant Subsistence Officer, sailed for the States on his annual leave on the *Allianca* on October 19.

Mr. A. B. Nichols, office engineer at Culebra, returned from his leave in the States on the *Allianca*, which arrived at Cristobal on October 14.

Mr. Earle J. Banta, mechanical engineer in the Mechanical Division, has resigned to enter business in Cincinnati, Ohio, and sailed for the States on the *Allianca* on October 19.

OFFICIAL CIRCULAR.

Commission Equipment on P. R. R. Main Line.

CULEBRA, C. Z., October 9, 1909.

CIRCULAR NO. 286:

Employes will hereafter be governed by the following regulations in submitting requests for permission to run Commission equipment over the main line of the Panama railroad:

Requests for permission to run Commission equipment over the main line of the Panama railroad must be submitted in writing to the office of the Chairman at least three days prior to the date on which the train is desired. This is necessary in order to allow sufficient time for forwarding the request to the Panama railroad and receiving reply as to whether it is practicable to grant the permission for the date specified.

Requests should state:

Whether permission has been secured for the use of Commission equipment.

Whether a qualified crew will man the train.

The points between which the train is to be run.

Time of leaving and arriving at terminals, and intermediate points at which train will stop, in order that the despatcher of the Panama railroad may arrange a schedule accordingly.

In all cases qualified crews must be used, and train equipped with flags, markers, torpedoes and fusees.

H. F. HODGES,
Acting Chairman, Isthmian Canal Commission,
Second Vice-president, Panama Railroad Company.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Gatun, C. Z., on Sunday, October 24, 1909, at 2 p. m. The program follows:

1 March—*Army and Marine*..................Zehle
2 Selection—*The Grand Mogul*..... ....Luders
3 a Bolero—*Isolina*...................... Labory
b Schottische—*Four Little Blackberries.* O'Connor
4 Waltz—*Thousand and One Nights* ....Strauss
5 Potpourri of popular songs..............La Farge
Introducing "Sambo," "If I had a Thousand Lives to Live," "I've Lost My Teddy Bear," "I am Longing for Someone to Love Me," "Glow Worm," "Ada, My Sweet Potater," "Henry's Barn Dance," and "The Big Red Shawl."
6 Morceau—*The Dawn of Love*..............Bendix
7 Ballet—*Flight of the Birds*.....................Rice
8 Overture—*Light Cavalry*....................Suppe
9 Patrol—*Police*..............................Merritt
10 March—*The Tivoli* ....Jennings

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Balboa, on Sunday, October 31.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

The Canal Zone Y. M. C. As. have received an invitation to send representative athletes to compete in the athletic games in connection with the international festivities in San José, Cósta Rica, at the end of December. Any members who are interested and who could possibly arrange to go to Costa Rica at that time are requested to communicate with any secretary of the Y. M. C. A. for further particulars.

CULEBRA.

Notwithstanding the unfavorable weather, a good-sized audience was present for the moving picture show on October 12.

On Wednesday night of last week a meeting was held for the purpose of reorganizing the Bible club. The club voted to meet each Wednesday evening from 7.10 to 7.50 o'clock for the next nine weeks, during which period they will follow the discussions outlined by Dean Bosworth of Oberlin on "Jesus' conception of the Disciple and his mission." Mr. F. C. Freeman is leader and 21 men have thus far expressed their purpose to take part in the discussions. Others who are interested should join the club at once in order to get full benefit of the entire series of meetings.

Last Friday evening the chess club held a farewell meeting in honor of Mr. G. W. Strong, who has been president of the club for two years. The meeting was in the nature of a rapid transit chess tournament, in which fourteen players took part. Mr. William Du Bois won the tournament. The club will meet on Friday night of this week to elect Mr. Strong's successor and transact other business.

There is considerable demand for increasing the activities of the Camera Club. A meeting will be held soon for reorganization. All who are interested should see Mr. Lawlor, or leave their names at the secretary's desk.

A large and appreciative audience was present at the clubhouse Sunday evening for the concert by the I. C. C. band.

Empire will bowl at Culebra in the regular tournament series on Wednesday night of this week.

Mr. Goodman has returned from leave and resumed his duties as secretary.

EMPIRE.

A Bible club has been organized with an initial enrollment of eleven members. New members will be welcomed at any regular meeting on Thursday evenings from 7 to 8 o'clock. Mr. Gobrecht is leader.

The five billiard and pool tables in use up to the present time have been so inadequate to the demand that the association has purchased one billiard and one pool table additional. These tables have just been installed in the space adjacent to the bowling alleys.

GORGONA.

One of the largest crowds ever present at a moving picture entertainment in Gorgona witnessed the show last Thursday night. The subjects were well selected.

CRISTOBAL.

The entertainment hall was well filled for the Hagy moving picture show last Saturday night.

The series of bowling tournament games against Gorgona on Saturday night resulted as follows:

Cristobol.	*First.*	*Second.*	*Third.*	*Total.*
Bullard	189	143	182	514
Barlow	212	168	173	553
Loucb	156	140	172	468
Collins	186	128	180	494
Strong	146	191	219	556
Total	889	770	926	2,585
Gorgona.				
Humphrey	178	133	150	461
King	133	126	155	414
Hayes	114	...	...	114
McConaughy	...	130	133	263
Haldeman	162	131	106	399
Buchanan	171	152	177	500
Total	758	672	721	2,151

Resolutions of Sympathy.

At a meeting of Empire Court, No 1, Independent Order of Panamanian Kangaroos, held on September 25, 1909, the following resolutions were passed:

WHEREAS, The Almighty God in his infinite wisdom, has called from among us our beloved brother, Harrison C. Ball; it is therefore

Resolved, That Empire Court of the Independent Order of Panamanian Kangaroos mourns the loss of an esteemed member whose unsullied honor, integrity and dealings with his fellowmen have so endeared him to us that in this hour of grief we stand appalled by our loss; and be it therefore further

Resolved, That this order do hold a court of sorrow and therein mourn the loss of our beloved brother, and that to the stricken family of him who has gone before, the sympathy of this court, which so keenly feels his loss, be extended; and be it further

Resolved, That our comrade whose mortal years are done and whose soul is now in the valley of peace, has left naught behind but his love, and that we do supplicate Thou, who to the mercy seat our souls doth gather, to give it us to follow one day in the footsteps of him whom we now mourn.

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal and Colon during the week ended October 16, 1909, with supplies for the Isthmian Canal Commission:

Sarnia, October 12, from New York, with 18 tons unslacked lime, for stock; 100 tons sewer pipe, for Panama.

Cristobal, October 13, from New York, with 18,187 barrels cement, for Atlantic Division; 24,000 bags cement, for Pacific Division; 190 tons structural material for moveable towers, Gatun; 54 tons structural material, for sand unloader cranes, Balboa; 60 tons structural material, for handling plant, Pedro Miguel.

Turrialba, October 14, from New Orleans, with 100 tons rice straw, 168 tons oats, for corrals; 21 tons cast iron pipe, for Gatun reservoir; 35,280 feet yellow pine lumber, for car repairs; 8 tons concrete mixer parts, for Gatun; 855 pieces soil pipe, for stock; 23,715 feet yellow pine lumber, for Balboa.

Allianca, October 14, from New York with 700 pounds smooth-on compound, 15,000 gallons engine oil, 10,000 gallons valve oil, 14,962 electric fuses, 600 kegs wire nails, 150 ranges, for stock; 15 tons steel plate, for Gorgona shops; 1,235 steel knuckles, for car repairs; 18 tons crane parts, for Balboa; and a miscellaneous cargo aggregating 7,020 packages, weighing 585 tons.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., October 20, 1909.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Anderson, Carl
Baker, Aubrey
Barkley, J. M.
Biesen, P. A.
Brown, William C.
Burke, Mrs. Mabel (2)
Callahan, Fred.
Campbell, Allan Joyice
Clark, Miss Hazel
Coyne, John
De Lapura, Rosario
Donahue, D. F.
Doyle, Percey J.
Edwards, Richerd
Ergenzinger, Wm. J.
Erion, C. M. (2)
Exline, Jess
Field, William
Foster, Miss Mattie
Frank, Charles S.
Gibbs, Fannie R.
Hall, Percy H.
Hartigan, F. L.
Hill, Iver G.
Hernandez, Manuel
Howe, Mrs. Wm.
Johnson, G., Jr.
Jones, Harry
Jordan, Mrs. J. P.
Kenworthy, R. A.
Kranz, Herman
Lord, Mrs. E. E.
Lough, Mrs. Mike H.
Major, Mrs. J. I.
McCall, Lyman (2)
McDonald, H. M.
McGee, James
McKelvy, J.
Murrim, Samuel
Nicola, Albanese
Norman, F. L.
O'Ryan, Phil
Roberts, Dr. Grant J.
Sawaia, R. A.
Shirley, William
Shoesmith, George
Stine, Wm. P. (2d class)
Townsend, J. E.
Verner, Philip S. (S. P., 4)
Vonder Leith, T. R.
Walker, Amos
Walraven, Francis W.
Warren, Claude
Washburn, F. J. (2)
Wilde, O. P.
Williams, Geo. (2d class)
Wright, George
Young, J. C.

LEGAL NOTICE.

United States of America, } In the Circuit Court,
Canal Zone. } First Judicial Circuit.

A petition having been filed by the Collector of Revenues for the escheat of the estate of Richard Prince, who died intestate at Balboa, on or about the 17th of November, 1908, leaving property to the value of $18.25 U. S. currency, notice is hereby given to all heirs, creditors, or other claimants of the said estate to appear at the courthouse at Ancon on or before the 10th day of December, 1909, for the purpose of filing their claims.

F. H. SHEIBLEY,
Acting Circuit Court Clerk.

Commission Clubhouse at Gatun.

Contract building. Sealed proposals for labor only, will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., October 25, 1909, and then opened, for the erection by contract of a Y. M. C. A. clubhouse at Gatun. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal, and $500 when the contract is signed.

R. E. WOOD, *Acting Chief Quartermaster.*

LOST—Between Corozal and Balboa, or Panama, or in one of those towns, two medals from Ancon athletic meet of July 4, 1909. Finder please return to Edward Roberts at Balboa, and receive a reward.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning October 16:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	27
Chops	per lb	29
Cutlets	per lb	29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	4
Soup	per lb	6
Stew	per lb	10
Corned	per lb., 12, 14,	16
Chuck roast	per lb	14
Pot roast	per lb	16
Rib-roast, second cut (not under 3½ pounds)	per lb	19
Rib-roast, first cut (not under 3 pounds)	per lb	21
Sirloin roast	per lb	22
Rump roast	per lb	22
Porterhouse roast	per lb	22
Steak, Chuck	per lb	15
Round	per lb	16
Rib	per lb	21
Sirloin	per lb	22
Porterhouse	per lb	22
Rump	per lb	22
Tenderloin	per lb	27

MISCELLANEOUS.

Livers—Beef	per lb	11½
Calf	each	65
Shad roes	pair	40
Sausage—Pork	per lb	17
Bologna	per lb	17
Frankfurter	per lb	17
Leberwurst	per lb	17
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	30
Oysters	keg	90
Eggs, fresh	dozen	34
Bluefish	per lb	15

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, fatted	each	1.30
medium weight	each	90
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese, fatted, about 10 pounds	each	2.00
12 pounds	each	2.30

CURED AND PICKLED MEATS.

Bacon—Breakfast, whole piece	per lb	27
Breakfast, sliced	per lb	29
Ham—Sugar-cured, sliced	per lb	§25
One-half, for boiling	per lb	§21
Westphalia	per lb	45
Hocks	per lb	‡8
Sugar cured	per lb	20
Beef, salt, family	per lb	10
Pork, salt	per lb	15
Ham, boiled	per lb	28
Ox tongues	each	1.00
Pigs' feet	per lb	8
tongues	per lb	16

DAIRY PRODUCTS.

Butter—Prints, prime quality	per lb	42
Cheese—Roquefort	per lb	45
Philadelphia Cream	each	20
Young America	per lb	22
Swiss	per lb	31
Edam	each	1.05
Camembert	per lb	25
Neufchatel	each	6
Gouda	per lb	34
Parmesan	bottle	20
French cheese in tins—Camembert, Brie, Neufchatel	1-lb tin	20
Milk, Briarcliff	bottle	**25

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	10
Lettuce	per lb	15
Potatoes, white	per lb	†3½
sweet	per lb	2½
Onions	per lb	3
Squash, Hubbard	per lb	5
Yams	per lb	3½
Turnips	per lb	3½
Carrots	per lb	4
Beets	per lb	5
Cauliflower	per lb	12
Cucumbers	per lb	†6
Tomatoes	per lb	†7
Lemons	dozen	24
Grapes	per lb	8
Limes	per 100	80
Watermelons	each	†45
Peaches	per lb	†12
Cantaloupes	each	†10
Cabbage	per lb	4
Apples	per lb	5
Oranges	dozen	12
Grapefruit	each	4
Plums	per lb	†12
Pears	per lb	7

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Rainfall, October 1 to 16, 1909, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Division—			
Cristobal	6.03	8	15.67
Brazos Brook	2.35	1	10.95
Gatun	2.16	1	10.10
Bohio	2.89	1	10.55
Central Division—			
Tabernilla	3.23	10	12.04
San Pablo	3.25	10	11.30
Gorgona	3.10	1	8.64
Gamboa	3.32	1	11.35
Empire	4.55	1	14.48
Camacho	3 23	1	13.84
Culebra	2.86	15	12.22
Pacific Division—			
Rio Grande	3.07	15	13.18
Pedro Miguel	3.82	6	13.76
Balboa	1.43	5	7.30
Ancon	1.25	1	5.87
Miraflores	4.20	3	14.52
Atlantic Coast—			
Porto Bello (to 5 p. m. Oct. 14)	1.69	6	6.35
Nombre de Dios	3.33	6	9.98
Upper Chagres—			
El Vigia	2.44	5	13.70
Alhajuela	1.80	13	12.43

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ended midnight Saturday, October 16, 1909:

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft.	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Oct. 10	128.0	94.5	52.6	13.0	5.6	5.0
Monday, Oct. 11	127.8	94.3	52.6	14.2	7.6	6.5
Tuesday, Oct. 12	130.3	96.0	51.4	13.2	6.9	5.8
Wednesday, Oct. 13	129.8	96.0	52.4	13.8	7.8	6.4
Thursday, Oct 14	130.6	96.2	53.2	12.1	6.9	6.0
Friday, Oct. 15	131.7	96.8	54.3	13.5	7.2	6.2
Saturday, Oct. 16	133.7	98.0	53.6	13.9	7.2	6.2

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending October 27, 1909 (75th meridan time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	A. M.	P. M.	P. M.
Oct. 21	....	1.43	7.39	2.16	8.18
Oct. 22	....	2.40	8.35	3.16	9.23
Oct. 23	....	3.51	9.46	4.26	10.40
Oct. 24	....	5.11	11.10	5.40	11.48
			P. M.		
Oct. 25	....	6.21	12.26	6.48	....
Oct. 26	12.58	7.20	1.29	7.43	....
Oct. 27	1.53	8.13	2.22	8.33	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO COLON.

Colon	P. R. R.	Thursday	Oct. 14
Clyde	R.-M.	Saturday	Oct. 16
Ancon	P. R. R.	Wednesday	Oct. 20
Panama	P. R. R.	Thursday	Oct. 21
Prinz Aug. Wilhelm	H.-A.	Saturday	Oct. 23
Allianca	P. R. R.	Thursday	Oct. 28
Thames	R.-M.	Saturday	Oct. 30
Cristobal	P. R. R.	Wednesday	Nov. 3
Colon	P. R. R.	Thursday	Nov. 4
Prinz Joachim	H.-A.	Saturday	Nov. 6
Advance	P. R. R.	Tuesday	Nov. 9
Atrato	R.-M.	Saturday	Nov. 13
Panama	P. R. R.	Monday	Nov. 15
Ancon	P. R. R.	Wednesday	Nov. 17
Allianca	P. R. R.	Saturday	Nov. 20
Prinz Aug. Wilhelm	H.-A.	Saturday	Nov. 20
Colon	P. R. R.	Saturday	Nov. 27
Tagus	R.-M.	Saturday	Nov. 27
Cristobal	P. R. R.	Wednesday	Dec. 1
Advance	P. R. R.	Thursday	Dec. 2
Prinz Joachim	H.-A	Saturday	Dec. 4
Panama	P. R. R.	Thursday	Dec. 9
Oruba	R.-M.	Saturday	Dec. 11
Allianca	P. R. R.	Tuesday	Dec. 14
Ancon	P. R. R.	Wednesday	Dec. 15
Prinz Aug. Wilhelm	H.-A.	Saturday	Dec. 18
Colon	P. R. R.	Tuesday	Dec. 21
Magdalena	R.-M.	Saturday	Dec. 25
Advance	P. R. R.	Monday	Dec. 27

Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

COLON TO NEW YORK.

Cristobal	P. R. R.	Thursday	Oct. 21
Colon	P. R. R.	Monday	Oct. 25
Prinz Joachim	H.-A.	Tuesday	Oct. 26
Panama	P. R. R.	Tuesday	Nov. 2
Atrato	R.-M.	Wednesday	Nov. 3
Ancon	P. R. R.	Wednesday	Nov. 3
Allianca	P R. R.	Monday	Nov. 8
Prinz Aug. Wilhelm	H.-A.	Tuesday	Nov. 9
Colon	P. R. R.	Tuesday	Nov. 16
Cristobal	P. R. R.	Wednesday	Nov. 17
Tagus	R.-M.	Wednesday	Nov. 17
Advance	P. R. R.	Sunday	Nov. 21
Prinz Joachim	H.-A.	Tuesday	Nov. 23
Panama	P. R. R.	Saturday	Nov. 27
Ancon	P. R. R.	Wednesday	Dec. 1
Oruba	R.-M.	Wednesday	Dec. 1
Allianca	P. R. R.	Thursday	Dec. 2
Prinz Aug. Wilhelm	H.-A.	Tuesday	Dec. 7
Colon	P. R. R.	Thursday	Dec. 9
Advance	P. R. R.	Tuesday	Dec. 14
Cristobal	P. R. R.	Wednesday	Dec. 15
Magdalena	R.-M.	Wednesday	Dec. 15
Panama	P. R. R.	Tuesday	Dec. 21
Prinz Joachim	H.-A.	Tuesday	Dec. 21
Allianca	P. R. R.	Sunday	Dec. 26
Ancon	P. R. R.	Wednesday	Dec. 29
Clyde	R.-M.	Wednesday	Dec. 29

NEW ORLEANS TO COLON.

Abangarez	U.F.C.	Saturday	Oct. 16
Atenas	U.F.C.	Saturday	Oct. 23
Turrialba	U.F.C.	Saturday	Oct. 30
Abangarez	U.F.C.	Saturday	Nov. 6
Atenas	U.F.C.	Saturday	Nov. 13
Turrialba	U.F.C.	Saturday	Nov. 20
Abangarez	U.F.C.	Saturday	Nov. 27

COLON TO NEW ORLEANS.

Abangarez	U.F.C.	Tuesday	Oct. 26
Atenas	U.F.C.	Tuesday	Nov. 2
Turrialba	U F.C.	Tuesday	Nov. 9
Abangarez	U.F.C.	Tuesday	Nov. 16
Atenas	U.F.C.	Tuesday	Nov. 23
Turrialba	U.F.C.	Tuesday	Nov. 30
Abangarez	U.F.C.	Tuesday	Dec. 7

COLON TO BARBADOS, CALLING AT TRINIDAD.

Clyde	R.-M.	Tuesday	Oct. 26

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Mercian* for New Orleans, via Kingston, Ja., on or about October 31.

The steamers *David* of the National Navigation Company, and the *Taboga* of the Pacific Steam Navigation Company, leave Panama, for David, province of Chiriqui, and intermediate points, the first and third weeks of each month.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, OCTOBER 27, 1909. No. 9.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Slide at Ancon Quarry.

A slide, involving the bulk of the loose material lying directly below the site of the new rock crushing plant on the west slope of Ancon Hill, gave indications of activity several days ago. The movement was very slow at first, but during the heavy thunder storm on the night of Thursday, October 21, the slide attained serious proportions, and by morning had moved in places from four to six feet. The mass had sunk in some places and weaved up in others. The greatest depression is immediately in front of the crusher foundations where the earth settled about 20 feet on the face of the rock. When this settlement had reached a depth of 10 feet a large stream of water became visible which is probably responsible for the movement, as the entire mass is saturated.

The last movement dislodged the north wing of the concrete retaining wall at the crusher site. This wall, was carried outward, but had not become entirely loosened from the remainder of the structure. To relieve any strain that it might have caused to the other portion, the wall was shattered by dynamite on Friday. There has been no damage to the rock crusher machinery, or its foundations, with the exception that a piece has been chipped off of one of the lower crusher foundations. The trestle work over the crushers, and the south wing of the retaining wall still stand, but a crack has developed in the latter on the side nearest the machinery, two or three inches in width, extending from near the outer edge at the top of the wall downward toward the base in a diagonal direction. As the foundation of this portion of the wall rests on rock, and as the wall itself is anchored by steel cables to the rock face of the hill, it will not be affected by the slide. To relieve pressure from behind it, however, the loose material previously filled in, is being removed.

The hill back of the crusher plant is composed of solid rock, and is in no way affected by the movement, which is wholly confined to the natural earth and toes of the slope that have been formed between the retaining wall and the storage bin structure. The slide moved the foundations of the conveyor shed, extending from the crusher plant to the storage bins, out of position, and to prevent any pressure being exerted on the rock bins, the conveyor superstructure was entirely dismantled. The movement also involved a portion of the inclined cable track over which supplies were hauled to the higher levels, necessitating its reconstruction.

In order to check further movement, and to remove any danger of the mass encroaching on the foundations of the storage bin structure, two steam shovels, one working from each direction, have been making a cut at the foot of the slide. When the excavation is completed, a crib wall will be constructed of timber and piling and filled in with rock, which, it is believed, will stop any further movement. Previous to the slide some piles had been driven at the foot of the slope, but these were overwhelmed. A 6-inch pipe line has been laid to the spot to permit of sluicing the mud away in front of the rock bins in case such action becomes necessary.

Work at the quarry plant had so far advanced that regular operations could have been started by November 1, or shortly thereafter, but the slide will cause some delay.

Concrete Laying at Gatun.

The greatest amount of concrete laid in a single day at Gatun Locks was placed on Sunday, October 24, when 1,304 cubic yards were added to the 33,248 cubic yards that had been placed up to the close of work on October 23. The record up to the end of the week closing on October 23 is as follows:

	Cubic Yards.
August (seven days)	1,298
September (26 days)	11,934
October 1 to 9 (nine days)	6,014
October 10 to 16 (seven days)	6,692
October 16 to 23 (seven days)	7,310

The daily average for the week ended October 23 was 1,043, and the record by days follows:

	Cubic Yards.
October 17	778
October 18	924
October 19	1,058
October 20	1,174
October 21	1,146
October 22	1,066
October 23	1,164

During the week there were laid in the spillway of Gatun Dam 916 cubic yards of concrete, making the total concrete laid at Gatun 8,226 cubic yards, for the seven days ended October 23.

Concrete Work at Pedro Miguel Locks.

A total of 2,541¾ cubic yards of concrete was laid at the Pedro Miguel Locks during the week ended October 23, which was about one-half of the total laid up to October 18, since the beginning of the concrete work on September 1. The record shows a steady gain for each of the six working days of the week with one exception, and on Saturday, October 23, the record for the entire period was broken, when a total of 541 cubic yards was laid during the day. The detailed statement follows:

	Cubic Yards.
Prior to October 18	5,146¼
October 18	334¼
October 19	382
October 20	360
October 21	395
October 22	529½
October 23	541
Total	7,688

Bottom of Canal at Mindi.

One of the steam shovels on the dry excavation in the Mindi Hills near the Atlantic entrance is working on the bottom of the Canal at 41 feet below sea level. Less than half a mile north a ladder dredge is digging rock and mud out of the channel in Limon Bay, and two miles south the concrete gangs are at work in Gatun Locks. The Mindi work is the only steam shovel excavation between Gatun and the Atlantic entrance, and it was believed that it presented a drainage problem that would make dry excavation impracticable, because the cut is only a few feet from the French canal, and within a mile of the Mindi River and Limon Bay. Contrary to expectation little water has seeped into the cut from the nearby canal, bay, and river, and most of the difficulty so far experienced has been with rain water.

A system of diversion ditches has been dug on either side of the cut to keep the water from the surrounding country from flowing into it, and such rain water as cannot be diverted is collected in a sump near the north end of the excavation and raised thence over a dike into the French canal, a total lift of 45 feet. The pumping plant consists of one 16-inch, and three 8-inch old French centrifugal pumps and one 6-inch duplex pump, run by two old French engines which are supplied with steam by two Scotch marine boilers taken from the French dredges at Chagrecito. This plant took the place of one of less capacity, and the installation was completed on August 1. During August and September the 6-inch pump was able to keep the pit clear of water, but the heavy rains of October have made recourse to the other pumps necessary. Before the new plant was established, during the heavy rains of June, the lower levels were flooded and the work interfered with by water, but the present plant will easily handle all the rain water that collects and any but an exceptional amount of seepage water.

The bottom of the Canal was struck on October 12 by the only 90-ton steam shovel

NOTES OF PROGRESS.

Continued.)

on the Mindi work, and a cut is being made along the west side of the excavation at 42½ feet below sea level, the extra foot and a half below the bottom of the Canal being for the purpose of draining water from other parts of the excavation into the sump. The other two shovels now at work there are on the east side and on higher levels.

At the south end of the cut and along the east side some difficulty has been experienced with sliding material. On September 23 the shovel now at work in the bottom of the Canal was caught by a quantity of mud sliding on slick rock and together with the tracks was pushed 20 feet out of its original position. Shovel 101, which was excavating this sliding material early in October, settled gently into the mud and overturned. On the east side of the cut about midway between the two ends is a mass of loose dirt in which shovel 104 is working. It is said that this material was pumped from the French canal behind a row of piles into its present position and that this accounts for its lack of coherence. During September one of the shovels excavating in this material was caught, and although not damaged was sent to the shops for general repairs. The shovel now at work there is withdrawn every night to a point behind a ledge of rock where it is safe from the sliding mud, and is "cut in" again each morning.

The steam shovels are served by five 100-class, two 200-class, and two 300-class locomotives; also, one of the French type. The spoil is dumped at Gatun Dam. In making the ascent from the bottom of the cut to the dike above the level of the French canal two locomotives can haul out sixteen 10-yard, or twelve 18-yard dump cars in dry weather, while three locomotives are required for wet weather. The force on the work at present consists of 42 gold men and between 350 and 400 laborers.

The excavation at Mindi was begun in July, 1907. The total amount excavated up to October 1, 1909, was 1,362,169 cubic yards and the amount remaining was about 1,087,208 cubic yards. This work has been done at an average cost of 59.79 cents per cubic yard for the fiscal year 1909, and 56.75 cents per cubic yard for the fiscal years 1908 and 1909. The proportion of rock to earth and the cost per cubic yard excavated during the first six months of the current year are shown in the following table:

MONTH.	CUBIC YARDS.			Cost: Cents.
	Earth.	Rock.	Total.	
January	8,096	37,568	45,664	63.56
February	7,951	38,095	46,046	66.39
March	28,957	41,756	70,713	61.99
April	20,630	53,738	74,368	36.74
May	17,206	54,201	71,407	45.60
June	25,730	54,371	80,101	43.10

The quotations of cost are for division costs plus the overhead cost added by the office of the Chief Engineer. The earth excavation being done at the present time is more expensive than rock. In September the excavation per shovel day averaged 1,117 cubic yards; the blasting involved the drilling of 6,985 feet of holes and the use of 8,770 pounds of dynamite; 1,627 feet of new track and 4,816 feet of old track were laid. The rainfall at Cristobal was 16.33 inches and at Gatun 10.86 inches, and Mindi is between these two stations.

No Reservations on the "Cristobal."

The members of the Committee on Appropriations, and the Senators and Members of the House accompanying them, are expected to leave New York on the steamship *Cristobal*, scheduled to sail November 3, and will, in all probability, return to New York on the same boat. All cabin accommodations have therefore been reserved for the next sailing of the steamship *Cristobal*, scheduled to leave for New York on or about November 17, and no requests for other than steerage accommodations will be issued for this sailing until further notice.

Police Record for September.

The report of the Chief of Police and Prisons for September, 1909, shows that 559 arrests were made in the Canal Zone during the month, as compared with 535 in August, an increase of 24. Of the September arrests, 528 were men and 31 were women, the offenses with which they were charged aggregating 52.

The police force numbered 244 men on September 30, including 68 men on special duty, a net decrease of seven for the month. The pay rolls amounted to $17,088.84.

There were 31 criminal cases tried in the circuit courts, two of which were dismissed, 10 continued, and 17 in which convictions were secured. Thirty-two civil cases were tried during the month, and the sum of $836.11 was collected by the marshal in executions. An additional sum of $212 was collected by the marshal while acting as receiver.

The Zone convicts numbered 123 on August 31; received during September, 4; discharged, 7; total on September 30, 120. The number of district prisoners on the same date was 134. The prison pay rolls for the month amounted to $1,547.51; cost of prisoners' subsistence, $1,031.45, a total expense of $2,578.96. The value of work performed by prisoners on Zone roads was $1,751.10.

There were 10 deaths by violence during September, requiring action by the coroner, four of these being due to accidental drowning, two to electric shocks, one to railroad accident, one to accidental traumatism, and two to wounds inflicted by another person.

There were four deportations during the month, one to the United States, one to Jamaica, one to Spain, and one to France, the last two for soliciting and recruiting labor.

September Money Order Business.

During the month of September, 1909, the sixteen post-offices of the Canal Zone in which a money order business is done, sold 16,331 orders aggregating in value $417,803.50. This is an increase of 865 over the number issued in August, but an increase of only $8,322.28 in value. Of the September business, $311,734.23 represented orders drawn payable in the United States, $105,795.77 in orders drawn payable in the Canal Zone, and $273.50 in orders drawn payable in Martinique. In August, the first month of operation under the money order convention with Martinique, the value of orders drawn was only $28. The postal sales were $6,617.60, of which amount $3,970.56 accrued to the Canal Zone postal system, and $2,647.04 to the Republic of Panama. The revenue from newspaper postage was $10.80.

LABOR FORCE CONTINUES TO INCREASE.

Largest Number of Laborers Since Canal Work was Begun Recorded During September—Decrease in the Gold Force—Statement of Labor, Force and Quarters.

The largest number of employes ever at work on the Canal and Panama railroad was that of September 29, when the force numbered 35,210. Although the total effective force during September was the largest on record there was a decrease in the number of "gold," or skilled American employes, indicating a tendency toward a reduction in the number of supervisory positions. The 1,500 Barbadian laborers who arrived on the Isthmus on September 2, formed the largest single shipment of laborers ever brought to the Canal works. During the month 134 European laborers were taken from the Isthmus by a labor contractor in the employ of a railroad enterprise in Brazil. Since April, 1909, between 900 and 1,000 European laborers working for the Commission have been taken from the Isthmus by this recruiting agent.

The report of the Acting Chief Quartermaster for the month of September shows that of the 35,210 employes on the rolls of the Commission and Panama railroad, 23,158 were laborers for the Commission, 4,191 were on the "gold" roll of the Commission, and the remainder comprised the "gold" and "silver" forces of the Panama railroad. During the month the total of separations from the "gold" force of the Commission was 215, and of additions 214, making the net separations 1.

The number of family quarters occupied by "gold" employes was 1,494, and the occupants numbered 4,471; bachelor quarters by "gold" employes, 2,208, and the occupants numbered 3,407, of whom 113 were women. The family quarters occupied by West Indians numbered 971, and the occupants 3,064; bachelor quarters, 235, number of occupants, 5,274. The family quarters occupied by European laborers numbered 308, and the occupants 801; bachelor quarters 133, and the number of occupants 4,618.

The force actually at work on September 29, 1909, was as follows:

DEPARTMENT.	Monthly.	Artisans.					European Laborers.		West Indian Laborers.				Total Silver.	Total Gold.	Grand Total.
		44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	16 cents.	13 cents.	10 cents.	7 cents.			
Const'ct'n and Eng'r'ng.	2,977	26	49	357	853	2,024	3,123	518	1,093	2,571	4,955	320	18,866	3,144	22,010
Civil Administration	152	..	..	2	1	12	......	....	......	......	4	....	171	270	441
Sanitation	616	..	..	4	5	1	......	2	5	1	271	7	912	365	1,277
Quartermaster's	1,004	4	2	44	166	210	319	24	4	4	779	15	2,575	242	2,817
Subsistence	615	..	..	1	2	......	......	....	......	1	......	....	619	58	677
Disbursements	8	..	..	....	......	......	......	....	......	......	......	....	8	21	29
Examinat'n of Accounts.	7	..	..	....	......	......	......	....	......	......	......	....	7	91	98
Totals	5,379	30	51	408	1,027	2,247	3,442	544	1,102	2,577	6,009	342	23,158	4,191	27,349

Panama railroad force, 7,043: Panama railroad commissary force, 818.

EXECUTIVE ORDERS.

Humane Laws For Children Under 18 Years, and For Animals.

Under authority vested in me by law it is ordered:

1. Chapter II of Title XII of Act No. 14, of the laws of the Canal Zone, is amended by the addition thereto of the following section:

Section 210-½. Every person who shall torture, cruelly beat, abuse, wilfully maltreat, or unnecessarily deprive of liberty any child under the age of eighteen, and every person having custody or possession of a child under the age of fourteen who shall expose it in any highway, street, field, house or other place with intent to abandon it, is guilty of a misdemeanor.

2. Section 423, Chapter XIV, Title XVI, of Act No. 14 of the laws of the Canal Zone, is amended to read as follows:

Section 423. Every person who shall overdrive, overload, torture, cruelly beat or injustifiably injure, maim, mutilate or kill or deprive of necessary food, drink or shelter, or work when unfit for labor, any animal whether wild or tame and whether belonging to himself or to another, or who, being the owner or possessor or having charge or custody of a maimed, diseased, disabled or infirm animal shall abandon it, or leave it to die in a street, road or other place, is guilty of a misdemeanor. Any police officer may lawfully destroy or cause to be destroyed any animal found abandoned and not properly cared for, appearing, in the judgment of two reputable persons called by him to view the same in his presence, to be injured or diseased past recovery for any useful purpose.

3. Any duly appointed agent of a regularly organized humane society in the Canal Zone may be commissioned by the proper authorities of the Canal Zone as a special police officer for the enforcement of the provisions of this order and of any other law, regulation or order in force in the Canal Zone for the prevention of cruelty to children and animals, and when so commissioned shall be vested for that purpose with all the authority of a member of the Canal Zone police force.

Wm. H. Taft.

The White House, *October 2, 1909.*

[No. 1130.]

Board of Local Inspectors to License Officers of Vessels.

Under authority vested in me by law, it is ordered:

Section 1. The Chairman of the Isthmian Canal Commission shall appoint three persons who shall constitute a "Board of Local Inspectors." The members of this Board shall be employes of the Isthmian Canal Commission, or the Panama Railroad Company, or both, and shall perform the duties hereinafter specified without additional compensation.

Section 2. The Board of Local Inspectors shall recommend the classification of masters, mates, engineers, and pilots of steam vessels propelled upon the waters within the jurisdiction of the Canal Zone. Upon such recommendation, in writing, the Head of the Department of Civil Administration, Isthmian Canal Commission, shall issue licenses.

Section 3. Whenever any person applies to be licensed as master, mate, engineer, or pilot of any steam vessel propelled upon the waters within the jurisdiction of the Canal Zone, the Board of Local Inspectors shall make diligent inquiry as to his character, and shall carefully examine the applicant, as well as the proof he presents in support of his claim; and if, upon full consideration, they are satisfied that his character, habits of life, knowledge, and experience in the duties of master, mate, engineer, or pilot, are all such as to authorize the belief that he is a suitable and safe person to be entrusted with the powers and duties of such station, they shall recommend that a license be issued to him, authorizing him to be employed on any vessel propelled upon the waters within the jurisdiction of the Canal Zone, in such duties, for the term of three (3) years; but such license shall be suspended or revoked upon satisfactory proof of negligence, unskilfulness, or intemperance. The Board of Local Inspectors will recommend the assignment of mates or engineers to an appropriate class designated "Chief," "first," or "second."

Section 4. The Isthmian Canal Commission shall not engage for permanent employment upon any of its vessels propelled by steam, any master, mate, or engineer, who shall not be duly licensed by the United States, or the Government of the Canal Zone, and who is not a citizen of the United States, unless an American citizen is not available; and all officers at present employed who do not hold United States licenses will be required to qualify before the Board.

Section 5. The Government of the Canal Zone may issue licenses as masters, mates, engineers, or pilots to persons who are not citizens of the United States.

Section 6. The Executive Order of the Governor of the Canal Zone, dated December 8, 1905, is amended by this order only in so far as it provides for the examination and licensing of pilots.

Wm. H. Taft.

The White House, *October 2, 1909.*

[No. 1131.]

Isthmian Baseball for 1909-10.

The indications are that the Atlantic Baseball League will consist of four clubs during the coming season. Three are already assured, and an effort will be made to have Gatun the fourth. Last season there were five teams in the Atlantic league, all in Cristobal and Colon. Two, the Dry Dock and the Civil Administration teams, have dropped out, leaving the Panama Railroad Company, the Commissary, and the Colon clubs still in the organization. A meeting of the league, of which R. H. Wardlaw is president, will be called soon to consider plans, including the matter of a site. There are no available grounds at Gatun, and in case a club is organized at that place, all of its games will probably be played in Colon. The Panama Railroad Company team has been able to obtain some valuable practice lately through exhibition games with a picked team from the cruiser *Tacoma.*

The call for the annual meeting of the regular Isthmian league organization of which Col. Goethals is president, appears below. Ancon, Empire and Gorgona are reasonably sure of a team this season, but the make-up of the fourth team is somewhat uncertain.

Meeting of Isthmian Baseball League.

As required by the constitution and bylaws of the Isthmian Baseball League, the regular annual meeting is hereby called for 2.45 p. m., Sunday, October 31, at the office of the president in Culebra. All members of the league are earnestly requested to be present as upon this meeting a great deal pertaining to the future welfare of the league depends. Each member is requested to come prepared to express his opinion in regard to all matters of interest to the league, some points of which are covered in the following:

1. Number of teams to comprise the league.
2. What teams.
3. Date of beginning of season of play.
4. Number of games to constitute the schedule.
5. Opinion of various clubs as to signing of players who will probably leave the Isthmus before the expiration of the season.
6. Extremely heavy expense to which the park associations are put by maintaining a team and paying expenses while away from home, one of the largest items in which is railroad fare to the Panama railroad.
7. Consideration of an agreement between the Isthmian and the Atlantic Leagues tending to prevent taking of players of one league by the other.
8. The selection and appointment of umpires.

Wm. M. Wood,
Secretary and Treasurer.

Empire, C. Z., October 25, 1909.

PERSONAL.

Lieut.-Col. Geo. W. Goethals, Maj. Gen. Thomas H. Barry, Maj. C. A. Devol, and Federico Alfonso Pezet, Peruvian Minister to Panama, sailed from New York on Sunday, October 24, at 7 a. m. on the *Ancon*, due at Cristobal on October 31.

Chief Justice H. A. Gudger and Mr. E. J. Williams, Disbursing Officer, are passengers on the *Panama*, due to arrive at Cristobal on October 27.

Capt. G. M. Hoffman, assistant engineer at Gatun, sailed for the States on his annual leave on the *Altianca* on October 19.

Mr. C. M. Saville, accompanied by Mrs. Saville and their son, returned from his leave in the States on October 14.

Red Men.

A very courteous invitation having been extended to all the chiefs of the Improved Order of Red Men on the Isthmus, by His Honor the Alcalde of the city of Panama, to attend and partake in the celebration of the sixth anniversary of the Independence of the Republic of Panama to be held in Panama on November 3, I therefore, as Deputy Great Incohonee for the Canal Zone, have accepted the invitation in behalf of the order and would request that every Red Man on the Isthmus attend. Transportation will be provided from Colon and intermediate points. In F. F. and C.

Eli Sims, *D. G. I.*

Cristobal, C. Z., October 23, 1909.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Balboa, C. Z., on Sunday, October 31, 1909, at 3 p. m. The program follows:

1	March—*L'Esperance*	Bonnisseau
2	Selection—*A Stubborn Cinderella*	Howard
3	Waltz—*Santiago*	Corbin
4	*a* Caprice—*Thistledown*	Bagley
	b Descriptive March—*Trailing the Trail*	Spaulding
5	Overture—*Light Cavalry*	Suppe
6	Flower Song—*Adoration*	Barnard
7	Patrol—*American*	Meacham
8	Potpourri of popular songs	La Farge

Introducing "Sambo," "If I had a Thousand Lives to Live," "I've Lost My Teddy Bear," "I am Longing for Some One to Love Me," "Glow Worm," "Ada, My Sweet Potater," "Henry's Barn Dance," and "The Big Red Shawl."

9	Intermezzo—*After Sunset*	Pryor
10	March—*Waldmere*	Losey

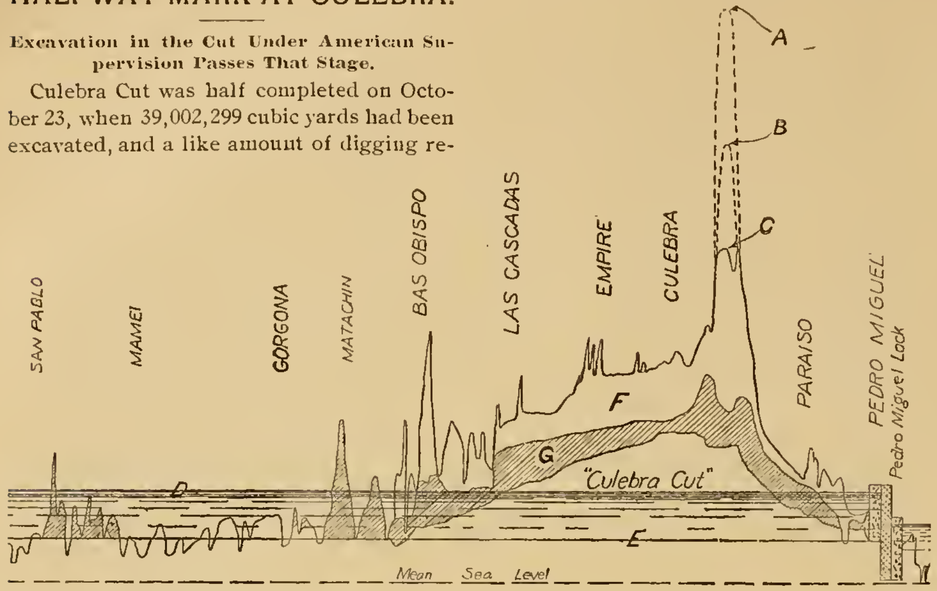
Chas. E. Jennings, *Musical Director.*

A concert will be given at Las Cascadas on Sunday, November 7.

HALFWAY MARK AT CULEBRA.

Excavation in the Cut Under American Supervision Passes That Stage.

Culebra Cut was half completed on October 23, when 39,002,299 cubic yards had been excavated, and a like amount of digging remained to be done. This halfway mark that has been passed refers to the amount to be excavated by the Americans. Counting the work done by the French the excavation in Culebra Cut is nearly two-thirds completed. The record on October 23, 1909, stood:

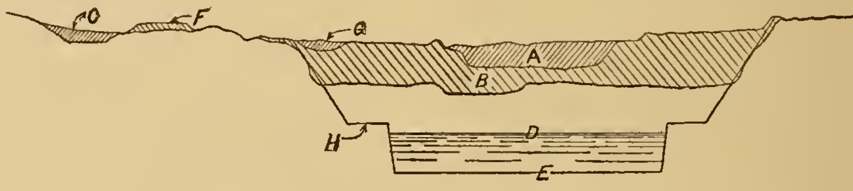


PROFILE OF CULEBRA CUT ON CENTER LINE OF THE CANAL.

Culebra Cut extends from Bas Obispo to Pedro Miguel Locks, a distance of 9 miles. The horizontal scale of the above profile is 1 to 200,000, and the vertical scale is 1 to 2,000.

A—Highest point of excavation, 534 feet above sea level, which is at Gold Hill, near Culebra.
B—Highest point of excavation on the south side of Culebra Cut at Contractor's Hill, 410 feet above sea level.
C—Highest point of excavation on center line of the Canal between Gold and Contractor's Hills, at 312 feet above sea level.
D—Normal elevation of water in Culebra Cut, 85 feet above sea level.
E—Proposed bottom of the Canal at 40 feet above sea level.
F—Excavation on center line done by the French.
G—Excavation on center line done by the Americans.
Part marked "Culebra Cut" shows amount of excavation on the center line yet to be done between Bas Obispo and Pedro Miguel.

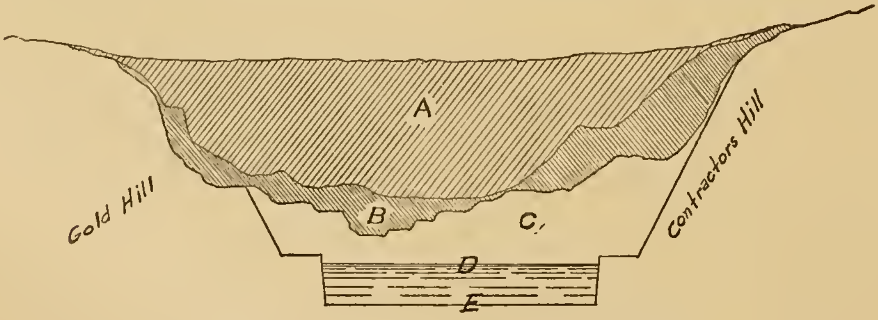
	Cubic Yards.
Excavation by French	24,588,520
Excavation by Americans	39,002,299
Excavation remaining	39,002,299



CROSS SECTION OF CULEBRA CUT AT EMPIRE.

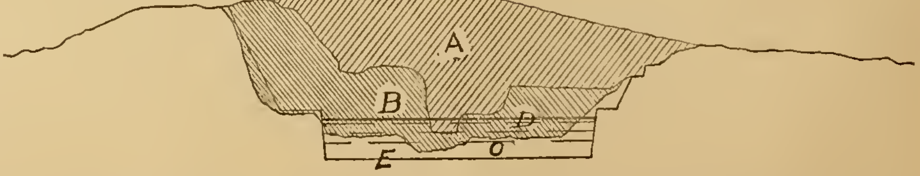
A—Excavation by the French.
B—Excavation by the Americans.
C—Excavation for Obispo Diversion by the Americans.
D—Surface of the water at elevation 85 feet.
E—Bottom of Canal at elevation 40 feet.
F—Dike built by the Americans along Obispo Diversion.
G—Excavation by the French for Obispo Diversion channel.
H—Berm on which Panama Railroad will run through Culebra Cut at elevation 95 feet above sea level.

The section of the Canal work referred to as Culebra Cut is nine miles long, extending from Bas Obispo to Pedro Miguel Locks. It will have a width of 300 feet at the bottom, which will be at 40 feet above sea level, the normal level of the water being fixed at 85 feet above the sea. Excavation was begun at Empire by the French on January 20, 1882, and was continued by them until 1889, when the first company became bankrupt. The new French company resumed the work in 1895, and continued it until May 4, 1904, when the Americans assumed control. The excavation each year since then has been as follows:



CROSS SECTION OF CULEBRA CUT NEAR CULEBRA.

A—Excavation by the French.
B—Excavation by the Americans.
C—Remaining to be excavated.
D—Surface of water at 85 feet above sea level.
E—Bottom of Canal at 40 feet above sea level.



CROSS SECTION OF CULEBRA CUT AT BAS OBISPO.

A—Excavation by the French.
B—Excavation by the Americans.
C—Remaining to be excavated.
D—Surface of water at 85 feet above sea level.
E—Bottom of Canal at 40 feet above sea level.

	Cubic Yards.
1904 (8 months)	243,472
1905	914,254
1906	2,702,991
1907	9,177,130
1908	13,912,453
1909 (9 months)	11,127,217

At present the work is being prosecuted without appreciable inconvenience on account of the rainy season, because of the effective drainage system, and at a rate that should insure the completion of all excavation in the Cut within four years. At the summit of the Cut near Empire, the lowest point at which a steam shovel is working, is 94 feet above the bottom, at Las Cascadas 37 feet, and at Bas Obispo one cut has been made for drainage purposes below the level of the bottom,' at 33 feet above sea level. On the south slope of the summit the lowest excavation at Gold Hill is 78 feet above the bottom, at Cucaracha 30 feet above bottom, and at Pedro Miguel part of the excavation is down to the bottom.

As the excavation advances the amount of rock handled in proportion to earth increases as do the grades up which the spoil trains must go to leave the Cut. The proportion of the total excavation that it has been necessary to blast during each September since the Americans began work is shown in the following statement:

SEPTEMBER.	Total excavation.	Blasted material.
	Cu. Yds.	*Cu. Yds.*
1904	25,220	13,367
1905	44,085	15,520
1906	291,452	198,083
1907	753,468	566,063
1908	1,122,860	896,346
1909	1,235,978	1,034,016

DREDGING IN SEPTEMBER.

Operations in Atlantic and Pacific Divisions Show a Slight Increase Over August.

The combined output of the dredges of the Atlantic and Pacific Divisions for September amounted to 1,473,574 cubic yards, as compared with 1,459,961 cubic yards for August, an increase of 13,613 cubic yards. Of the September excavation, 1,090,549 cubic yards were removed from the Canal prism, and 383,025 cubic yards from outside works. In the Atlantic Division, 410,574 cubic yards were taken from the Canal prism, and 362,735 cubic yards from outside works. In the Pacific Division, 679,975 cubic yards belonged to Canal excavation, and 20,290 cubic yards represented other operations. The dredging output in the Atlantic Division was 4,942 cubic yards less, and in the Pacific Division 18,655 cubic yards more, than in August.

The dredges in the harbor and channel section of the Atlantic Division removed 410,574 cubic yards of earth from the Canal prism. Of the 169,978 cubic yards taken out by the suction dredge *Caribbean*, 26,870 cubic yards of earth were removed from the approach channel to Cristobal Harbor, and 19,445 cubic yards of earth from in front of Pier 11. The remainder of its output, 123,663 cubic yards, was taken from the Canal prism. The *Caribbean* was laid up undergoing repairs from September 15 to 27, inclusive. The dipper dredge *Mindi* took out 8,500 cubic yards of earth, and 1,500 cubic yards of rock from the approach channel; 6,209 cubic yards of earth and 19,562 cubic yards of rock from in front of Pier 11, and 800 cubic yards of earth and 800 cubic yards of rock from the drydock slip, a total of 37,371 cubic yards for the month. Dredges *No. 1* and *No. 5* worked the entire month in the prism, while Dredge *No. 6* was laid up for repairs the whole of September.

In the Gatun section, Dredge *No. 82* continued excavating south of the dam, while Dredge *No. 83* continued work north of the dam. Dredge *No. 85* was at work north of the dam until September 24, when it was transferred to the lock slip to excavate for a new dock north of the cement shed. It returned to work on the dam at the end of the month, having taken out 14,113 cubic yards from the lock slip.

The tabular statement of operations in the Atlantic Division follows:

DREDGE.	Type.	Cu. Yds.
Caribbean	Suction	169,978
No. 1	Ladder	135,070
No. 5	Ladder	151,841
Mindi	Dipper	37,371
No. 82	Suction	110,792
No. 83	Suction	101,487
No. 85	Suction	66,770
Total		773,309

In the Pacific Division, the dredge *Culebra* worked during the entire month deepening the channel outside of the *Mole's* position, except that it took one load a day at high water from in front of the shipways. The dredge *Mole* worked northward the whole month, with the exception of one trip to Chamé for sand. The *Badger* worked during the month between Station 2164, plus 75 feet, and Station 2167. Its operations were somewhat delayed by two breakages of lower tumbler shafts, and the fact that considerable of the cut was in rock. The *Cardenas* was out of commission a total of 18 days during September, from the 1st to the 10th, and from the 18th to the 27th. Its working time was spent cutting along the east side of the Canal prism for a distance of 625 feet. The *Marmot* worked the whole month in the French canal. Its only delays were due to shaft breakage. The *Sandpiper* continued the hydraulic fill in the core of the west dam at Miraflores during the month. Repairs were completed to the *Gopher* toward the close of the month, and on the 29th it went to Chamé to dredge sand.

The tabular statement of operations in the Pacific Division follows:

DREDGE.	Type.	Cu. Yds.
Culebra	Suction	324,571
Mole	Ladder	*109,149
Badger	Ladder	85,908
Cardenas	Dipper	31,953
Marmot	Ladder	114,795
Sandpiper	Suction	33,889
Total		700,265

*Includes 3,400 cubic yards of sand dredged at Chamé.

Fatal Accidents.

Pedro Navaso, a Venezuelan, employed in the Pacific Division, check No. 29,040, was run over by a labor train in the Canal prism, opposite Cucaracha, on Thursday morning, October 21, receiving injuries which resulted in his death shortly after his removal to Ancon Hospital. He attempted to board the train after it was in motion and fell under the wheels. He was 21 years old and married.

Richard Deane, a Barbadian, employed in the Atlantic Division, check No. 83,742, was instantly killed by electricity near the concrete mixer building at Gatun, on Friday, October 22. He was trying to crawl through an opening between the track rail and the power rail on the industrial road, when the back of his head came in contact with the power rail.

John Mayers, a Barbadian, employed in the Atlantic Division, check No. 51,157, was killed at Gatun on Tuesday, October 19, while working on the south toe of the dam. He was helping to pull a dump car from its dumping to its running position, when one of the stay chains on the opposite side broke and as the other pin became unfastened at the same time, the car swung back pinning Mayers beneath it and crushing him to death.

Canal Zone Revenue Operations.

The total revenue collections in the Canal Zone during the month of September, 1909, amounted to $9,181.28, derived from the following sources: Distillation licenses, $225.55; burial permits, $2; taxes, licenses, etc., turned in by tax collectors, $8,954.28.

The total collections on account of general taxes and licenses for the fiscal year ended June 30, 1909, amounted to $96,970.86, as compared with $77,467.47 for the previous fiscal year. Distillation licenses, 65 in number, amounted to $2,209, as compared with $3,814.94 for the fiscal year ended June 30, 1908.

Sojourners Lodge No. 874, A. F. and A. M.

The regular communication of Sojourners Lodge, No. 874, A. F. and A. M., will be held on Saturday evening, October 30, in the Masonic hall, Colon, at 8 o'clock. As there is business of great importance all members are expected to attend. Visiting Master Masons in good standing are always welcome.

ELI SIMS, *R. W. Master.*

STEAM SHOVEL RECORDS.

Work Accomplished in the Central Division During September.

During the month of September the total amount of material excavated in the Central Division was 1,471,796 cubic yards, of which 364,147 cubic yards were classified as earth and 1,107,649 cubic yards as rock. Of this quantity, 1,454,287 cubic yards were removed by steam shovels, 16,714 cubic yards by hand, and 795 cubic yards by sluicing fill in the Obispo Diversion. The quantity of material removed from the Canal prism was 1,471,001 cubic yards, while 795 cubic yards were removed from the Obispo Diversion.

The high record for the month was made by shovel No. 223 working in the Culebra District, which excavated 48,860 cubic yards of earth in 25 working days. Shovel No. 256 working 25 days in the Bas Obispo District excavated 45,872 cubic yards, the second best record for the month. These shovels are in the 90-ton class.

The best record for a shovel in the 70-ton class was made by shovel No. 122, working in the Bas Obispo District, which excavated 37,893 cubic yards of earth in 25 working days.

Shovel No. 224, of the 90-ton class, working in the Culebra District, made the high record for one day by excavating 2,755 cubic yards of rock and earth on September 23.

Shovel No. 127 working in the Tabernilla District excavated 2,110 cubic yards on September 4, the high record for one day for a 70-ton shovel.

Monthly records are computed by place measurement, while the daily records are based on car measurement. The 200-class shovels are rated as 90-ton shovels, and the 100-class as 70-ton. The best records for the month and for one day in each district are shown below:

Shovel No.	CUBIC YARDS.			No. of days at work.
	Earth.	Rock.	Total.	
TABERNILLA DISTRICT.				
114	22,884	5,720	28,604	24
127	15,252	11,983	27,235	24
BAS OBISPO DISTRICT.				
256	2,294	43,578	45,872	25
122	37,893	....	37,893	25
EMPIRE DISTRICT.				
257	29,634	9,878	39,512	23
202	....	39,088	39,088	25
CULEBRA DISTRICT.				
223	9,762	39,098	48,860	25
208	....	43,718	43,718	25

BEST RECORDS FOR ONE DAY.

Shovel No.	Location.	Date.	Character of material excavated.	Cubic yds. excavated.
127	Tabernilla	Sept. 4.	Earth	2,110
258	Tabernilla	Sept. 11.	Earth	2,070
256	Bas Obispo	Sept. 20.	Rock	2,752
256	Bas Obispo	Sept. 14.	Rock	2,476
232	Bas Obispo	Sept. 17.	Rock	2,319
207	Empire	Sept. 9.	Rock	2,717
225	Empire	Sept. 25.	Rock	2,553
224	Culebra	Sept. 23.	Rock and earth	2,755
208	Culebra	Sept. 23.	Rock and earth	2,736

Launch Service to Taboga.

The steamer *Sanidad* leaves the dredge landing at Balboa at 9 o'clock Tuesday, Thursday and Saturday mornings. On the return trip it arrives at Balboa about 4.30 p. m. in time to make connections for the 5.30 train at Panama.

CHURCH AND MISSION WORK.

New Baptist Church at Colon—Sunday School Activities—Mission Rally at Empire.

The opening of the new Baptist Church building in Colon took place on Sunday, October 17, meetings being held at 10.30 a. m., 3 p. m., and 7.30 p. m. Assisting the ministers in charge of the mission, the Rev. Messrs. Wise and Sobey, was Mr. J. C. Forman, chairman of the proceedings. Judge Wesley M. Owen was the speaker in the morning. During the week following, meetings were held at 7.30 every evening, the speakers being the Rev. Messrs. Elliott, Cook, King, and Loveridge. On Saturday evening a concert was given, to which an admission of 25 cents was charged. On Sunday, October 24, Rev. C. H. Elliott was the preacher in the morning and Rev. J. L. Wise in the evening. The afternoon meeting was in charge of G. W. Smith, secretary of the Cristobal Young Men's Christian Association, and W. H. Cutler. The church is a concrete structure, with a seating capacity of 500. It is situated on land leased from the Panama Railroad Company, adjoining the Salvation Army Social Institute.

The Isthmian Sunday School Association held its fourth quarterly meeting for the current year at Empire, October 10. There were present the following delegates, representing eight schools:

S. H. Harrison of Corozal, president; J. C. Forman of Empire, vice-president; L. C. Vannah of Corozal, secretary; H. A. McConaughey of Gorgona, treasurer; W. H. Kromer, Miss Thomas, Cristobal; W. H. Standifer, Gatun; M. P. Pitts, Empire; Mrs. Van Hardeveld, Mrs. McNamara, Bas Obispo; A. H. Shrimpton, Miss Norcross, Pedro Miguel; Rev. C. H. Elliott, Cristobal; Mrs. Kelly, Miss Kelly, Miss Avis Green, Pedro Miguel.

Encouraging reports were received concerning local Sunday school activities, and plans were discussed with relation to more and better work. Action was taken preliminary to the introduction of the new International Beginners', Primary and Junior Lesson Series. The full course in the grades named covers nine years' study. The text books for the first year are now ready under date of October 1.

L. C. Vannah and F. E. Moore of Corozal, and J. M. Weaver of Culebra were chosen to organize systematic training of teachers.

Rev. A. Lucas, international secretary for the West Indies, Central and South America, will visit the Isthmus early in January for two or three weeks. A general rally will be held at Empire the second Sunday in January. The following committees were appointed to arrange the details:

Program—M. P. Pitts, Empire; Judge W. M. Owen, Ancon; Carrie M. Grigsley, Bas Obispo. Transportation—J. F. Warner, Culebra; H. A. McConaughey, Gorgona; W. H. Standifer, Gatun. Reception and itinerary for Mr. Lucas—J. C. Forman, Empire; A. H. Shrimpton, Pedro Miguel; W. H. Kromer, Cristobal.

The laying of the corner stone of the new church for St. James' Mission, Empire, took place on Sunday afternoon, October 17, under the direction of the rector, Rev. William H. Decker. Fifteen hundred people took part in the procession, which included a band of United States Marines, a corps of uniformed police, fifty choristers and vested acolytes bearing the cross, and large delegations of friendly societies. Judge Thomas E. Brown, Jr., delivered the address. The collection amounted to $145 gold.

Adjutant Filmer Watson and Mrs. Watson, in charge of the Salvation Army on the Isthmus, have been spending six weeks' vacation in the States and Canada. During their absence the work has been in charge of Staff-Captain Dabney of Kingston, Jamaica.

Various Society Meetings.

At the meeting of the Gorgona Woman's Club on Thursday, October 21, the officers for the year were nominated. Elections will be held at the meeting on October 28, when a full attendance is desired.

The Sunshine society at Gatun, Mrs. H. Porter, president, meets in the chapel fortnightly, on Thursday afternoons.

Claims Resulting from Sinking of Finance.

PANAMA RAILROAD STEAMSHIP LINE,
24 STATE STREET, NEW YORK.

To Passengers by the Steamship Finance on the Voyage from New York in November, 1908.

The attention of passengers who may have sustained losses by the sinking of the steamship *Finance* on November 26, 1908, after her collision with the White Star Line steamship *Georgic*, is called to the citation to present claims against the steamship *Georgic* issued by the United States Marshal for the Southern District of New York, of which a copy appears below.

Such claims are to be sworn to, with an attached list of the articles lost or damaged, giving the separate items, which is to be filed with Thomas Alexander, Esq., United States Commissioner, Post-office Building, New York City, on or before November 30 next at 10.30 a. m. Yours respectfully,

PANAMA RAILROAD COMPANY,
By E. A. DRAKE, *Vice-president.*

Dated September 25, 1909.

NOTE—If you have not already a proctor in admiralty to represent your claim, it is suggested that you place the same in the hands of Mr. Evan Shelby, of No. 46 Cedar street, New York City, who represents a number of the passenger claims, and who will be able to save expense to individual claimants by distributing the cost over a large number.

MARSHAL'S NOTICE.

United States of America, Southern District of New York, ss.:

WHEREAS, a petition was filed in the District Court of the United States for the Southern District of New York on the 24th day of December, 1908, by the Oceanic Steam Navigation Company, Limited, owner of the steamship *Georgic*, her engines, boilers, etc., for limitation of its liability for any loss, destruction, damage and injury caused by a collision between said vessel and the steamship *Finance*, on the 25th day of November, 1908, in the main channel near Sandy Hook, New Jersey, and

WHEREAS, the petitioner has given a stipulation to pay into court the sum of three hundred forty-two thousand and eighty-six and 85-100 dollars ($342,086.85) and interest, the appraised value of said steamship and her freight pending:

Now, therefore, in pursuance of the monition issued by said court, to me directed and delivered, I do hereby cite all persons claiming damage for loss, destruction, damage or injury occasioned by the said collision, to file and make due proof of their respective claims before Thomas Alexander, Esquire, a United States Commissioner, at his office, in the Post-office Building, in the City of New York, on or before the 30th day of November, 1909, at 10.30 a. m., and also to appear before said court in said building on the 30th day of November. 1909, at 10.30 a. m., and answer said petition; otherwise they will be defaulted and barred from participation in the said stipulation.

Dated New York, August 20, 1909.

WILLIAM HENKEL, *United States Marshal.*

ROBINSON BIDDLE & BENEDICT,
Proctors for Petitioner, 79 Wall street, New York City.

List of Passengers Located on the Isthmus with Their Addresses:

M. C. Azema, I. C. C., Empire, C. Z.
S. E. Blackburn, care of I. C. C., Ancon, C. Z.
Fred. H. Brundage, Pedro Miguel, C. Z.
Mrs. M. J. Cody, Gorgona, C. Z.
R. A. Conrad, Corozal, C. Z.
E. E. Fluharty, Empire, C. Z.
E. L. Galliher, Tabernilla, C. Z.
Mrs. K. M. Gelhart, Empire, C. Z.
J. E. Goldman, Commissary Department, Cristobal, C. Z.
Stanley Greenidge, Drydock, Cristobal, C. Z.
Paul Groff, care of H. F. Cody, Cristobal, C. Z.
Mrs. Thomas Halligan, Gorgona, C. Z.
C. H. James, Division of Posts, Customs and Revenues, Bas Obispo, C. Z.
Richard E. James, Department of Construction and Engineering, Empire, C. Z.
Ignaco Kagdan, Bas Obispo, C. Z.
Mrs. Sarah E. LePrince, Cristobal, C. Z.
Mrs. Mary A. Lincoln, Culebra, C. Z.
Miss Minnie Mahaney, Gorgona, C. Z.
Charles S. McCollum, Division of Municipal Engineering, Cristobal, C. Z.
John F. McGovern, Las Cascadas, C. Z.
Philip O. McQueen, Department of Construction and Engineering, Gatun, C. Z.
George R. McKee, San Pablo, C. Z.
B. F. Metcalf, Tabernilla, C. Z.
Mrs. A. G. Meyer, Cristobal, C. Z.
Crawford Moor, Cristobal, C. Z.
Nettleton Parrott, Department of Construction and Engineering, Gatun, C. Z.
Joe Perry, Ancon P. O., Ancon, C. Z.
Dr. F. M. Rodriguez, *Panama Journal*, Panama, R. P.
George H. Simmonds, fireman in charge, Balboa, C. Z.
LeRoy Smith, Gorgona, C. Z.
Mrs. S. F Talbot, Cristobal, C. Z.
John R. Sweeney, Mechanical Department, Cristobal, C. Z.
F. A. Thompson, San Pablo, C. Z.
E. L. Warren, Tabernilla, C. Z.

Unclaimed Laundry.

Packages of laundry received at the Cristobal laundry, from the following persons have remained unclaimed for a period of more than six months. If not claimed and charges paid before December 1, 1909, they will be sold at public auction at the laundry of the Panama Railroad Company, located in Cristobal, Canal Zone, on the date first mentioned, to satisfy charges due the Panama Railroad Company:

NAME.	Mark.	Residence.
Cameron, D.	C-5	No address.
McMiller, W.	Mc-212	Gorgona.
Marshall, Wm.	M-240	Empire.
Wilder, G. B.	W-193	Gatun.
Ragan, F. J.	R-187	Tabernilla.
Chowning, J. W.	C-12	Paraiso,
Person, J. T.	P-173	Gatun.
Mayers, W. H	M-138	Gatun.
Baker, A. T.	B-555	Gatun.
Davis, S. L.	D-258	Culebra.
Robinson, Joseph	R-285	Gatun.
Field, H. G.	F-177	Culebra.
Gores, F. E	G-183	Culebra.
Tomlinson, A. J.	T-213	Culebra.
Manuth, F. B	M-253	Empire.
Weird, J. B.	W-323	No address.
Reeder, W. E	R-180	Bas Obispo.
Wetzler, B. W	W-352	Gorgona.
Pake, J.	P-119	Gatun.
Gerry, Dan.	G-246	Paraiso.
Evans, F. M.	E-106	No address.
Martin, J. A.	M-305	Paraiso.
Proctor, Clyde.	P-184	Corozal.
Brennan, T. H.	B-56	Bas Obispo.
Crosby, T. L.	C-62	Las Cascadas.
Dakin, L. W.	D-9	Cristobal.
Davis, E. M.	D-108	No address.
Core, H. C.	C-53	No address.
Davies, H. M.	D-201	No address.
Cooper, Arthur.	C-209	No address.
Daly, C. C.	4-6	No address.
Caldwell, Wm.	C-315	Cristobal.
Brown, Jno. J	B-118	San Pablo.
Remick, Jno. M.	R-80	Gorgona.
Johnson, C. H	J-60	No address.
Wardlaw, J.	W-26	Bas Obispo.
Caloher, G. G	C-443	No address.
Terry, J. Y.	T-160	San Pablo.
Heslop, W. J.	H-386	San Pablo.
Brown, Jno.	B-663	Balboa.
Greenman, N. E.	G-250	Tabernilla.
No name.	Y-8	Culebra.
Lebrett, M.	L-264	Bas Obispo.
Spaulding, G. B.	S-116	Cristobal.
Sullivan, J. F.	S-453	Cristobal.
Steiner, Henry.	S-103	Cristobal.
Shaw, G.	S-136	Cristobal.
Reichwaldt, C. H	R-45	Cristobal.
Flynn, E. M.	F-202	No address.
Abbott, Mr.	A-103	Empire.
Avary, A. B	A-88	Ancon.
Allen, Joseph.	A-47	Cristobal.
Bernard, E.	B-646	Cristobal.
Bethea, J. K.	B-34	No address.
Betebenner, H.	B-92	Cristobal.
Bowman, T.	B-198	Cristobal.
Bryan, J. P.	B-671	No address.
Garham, John.	G-9	Cristobal.
Hayden, John.	H-283	No address.
Ragsdale, H. C.	R-129	No address.
Roberts, J.	R-209	Cristobal.
Long, W. H.	L-237	Cristobal.
Lee, E. E.	L-176	No address.
Lively, A. J.	L-274	Cristobal.
Lincoln, R. H	L-256	No address.
Boles, P. M.	B-207	Bas Obispo.
Lewis, C. L.	L-54	Cristobal.
Hilliard, G. L.	H-401	Cristobal.
Floyd, R. F.	L-8	Cristobal.
Perry, W. L. G.	P-192	Culebra.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

REPORT FOR SEPTEMBER.

Total membership	1,104
Total number of bowling games	4,042
Number different tournaments, billiard, pool, chess, etc	5
Total number of tournament players	52
Total number of pool and billiard games	13,715
Total income from soda fountains	$1,822.74
Number different men using gymnasiums	119
Total attendance of men using gymnasiums	470
Number enrolled in chess and checker clubs	39
Number enrolled in glee clubs	9
Number enrolled in dramatic and minstrel clubs	10
Number enrolled in camera clubs	74
Number enrolled in Bible clubs	5
Number of members of library	563
Total number of books withdrawn	1,349
Number of Sunday meetings	1
Attendance	275
Number of imported entertainments	8
Attendance	1,726
Number of local entertainments	4
Attendance	755
Number of functions outside association management	9
Attendance	1,010
Number of afternoons for women	25
Attendance	250
Number evening functions to which women were invited	14
Attendance	265
Different men on committees	14
Number of men called on in hospitals	158
Number of letters written at public tables	4,885
Total attendance at clubhouses	47,630
Average attendance per day	1,579

BOYS' DEPARTMENT (AGES 10–16).

Number of members	53
Number of afternoons open to boys	66
Attendance (average per afternoon)	36
Total attendance in systematic gymnasium work	553
Outings and other special features	2

CULEBRA.

At a meeting of the chess club held Friday evening, October 22, Mr. C. R. Harrington was elected president. A "knockout" chess tournament open to all players, will be started Thursday evening, October 28. The pairing for the first round will be made at 8 p. m. All games are to be played before November 1, when the pairing for the second round will take place. Remaining rounds follow at intervals of three days. The handball court is again being used and tournaments will soon be started. Fifteen men attended the opening session of the Bible class last Wednesday evening. All men who are interested are cordially invited to attend. A smoker for members will be held at the Y. M. C. A., Friday evening, October 29. Many novel features will be produced. The bowling tournament games rolled at Culebra on Thursday evening of last week resulted as follows:

Culebra.	*First.*	*Second.*	*Third.*	*Total.*
Lamster	193	152	202	547
Hayes	155	141	178	474
Winters	151	142	154	447
Cohen	176	141	139	456
Dougherty	165	157	184	506
Total	840	733	857	2,430
Empire.				
Brown	166	146	153	465
Potter	175	155	170	500
Gorbam	189	173	145	507
Hinckley	167	156	165	488
Huson	168	175	160	503
Total	865	805	793	2,463

EMPIRE.

A duck pin contest between a team from the Disbursing Office and a team from the Post-office, on Monday evening, October 18, resulted in a victory for the Post-office team, with the following score:

	Disbursing Office.	*Post-office.*
First game	444	414
Second game	413	433
Third game	428	496

The line-up for the two teams was as follows: Disbursing Office—Woods (captain), Huson, Porter, Akers and Fluharty. Post-office—Gorham (captain), Herring, Shaughnessey, Roggherro and Gustaveson. The Post-office team rolled the highest five-man score ever rolled in the Zone, the previous high score being 478, made by Cristobal. A return game was played on Tuesday evening, October 26.

A day gymnasium class, numbering eight men, was organized for night men on Monday night, October 18. This class will meet every Monday and Friday from 2 until 4 p. m.

GORGONA.

The Cristobal indoor baseball team played the Gorgona team at Gorgona last Saturday night, resulting in a victory for Gorgona by a score of 43 to 18. The line-up was as follows: Cristobal—McSparren, Tally, Russell, Humphrey, Swallenburg, Tuttle, and Sims. Gorgona—Buchanan, King, Cuff, Ridge, Weiser, Harrison, and Culberson.

The monthly praise service will be held next Sunday evening, October 31, with Judge Thomas E. Brown, Jr. of Cristobal as the speaker. Special music will be provided.

The tournament bowling games between Cristobal and Gorgona which were scheduled for last Saturday night were postponed and will be rolled at a later date.

CRISTOBAL.

Last Saturday, the members of the boys' department enjoyed a "hike" to, and a swim in, "Slip-in-Bay" under the direction of Physical Director Whitbeck. A new first class massage machine has been installed in the barber shop. Mr. Olyphant has resigned as librarian. His successor has not yet been named. An executive committee representing the Woman's club, the public school, the Union church, and the Y. M. C. A., will meet at the clubhouse in the near future to arrange for a Christmas entertainment and other festivities. The Thanksgiving Day bowling tournament will be held at Cristobal this year. F. C. Freeman and F. G. Smith are a committee of two to arrange for entries, prizes, etc. It is desired to make this year's tournament the greatest of its kind ever held. Cristobal bowlers are enthusiastic and promise a large number of entries.

The Cristobal clubhouse has been extending its courtesies for the past 30 days to the officers of the United States cruiser *Tacoma*. A visit to the war vessel by the secretary and physical director resulted in arranging a basketball game between the Cristobal Y. M. C. A., and a team from the *Tacoma*. Results will be announced later. Commander Niblack paid the clubhouse a visit on Sunday afternoon. The membership of the association is steadily increasing.

Physical Director Whitbeck has arranged the following schedule for gymnasium work:

Monday evening, basketball; Tuesday afternoon, boys' gymnasium class; Tuesday evening, men's gymnasium class; Thursday afternoon, boys' gymnasium class; Thursday evening, indoor baseball; Friday evening, men's gymnasium class; Saturday morning, "hike" and swim for the boys.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ended midnight Saturday, October 23, 1909:

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft.	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Oct. 17	130.0	96.5	53.6	14.1	6.9	6.0
Monday, Oct. 18	133.8	97.0	53.6	10.7	5.6	4.6
Tuesday, Oct. 19	133.8	98.4	52.7	15.7	8.2	7.2
Wed'esday, Oct. 20	128.8	95.4	56.0	14.6	8.4	7.4
Thursday, Oct 21	127.2	93.9	53.7	10.2	6.5	5.6
Friday, Oct. 22	127.0	93.7	49.5	7.9	4.3	3.5
Saturday, Oct. 23	123.6	94.8	48.8	10.2	4.5	3.5

Auction Sale of Dairy Cows.

On Monday, November 15, 1909, at 10 a. m., there will be sold at public sale at the Ancon Hospital dairy, seven dairy cows, ranging in age from seven to ten years. The dairy is located near the insane asylum buildings in the rear of the hospital grounds. The terms of the sale will be cash.

CHAS. F. MASON, *Superintendent.*

Ancon, C. Z., October 19, 1909.

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal, Colon, and Balboa during the week ended October 23, 1909, with supplies for the Isthmian Canal Commission:

Sarstoon, October 19, from London, with 100 barrels carbolic acid, for the manufacture of larvacide.

Colon, October 20, from New York, with 38 tons material, for handling plant, Pedro Miguel and Miraflores; 71 tons wrought pipe, for stock; 3 reels wire rope, for dredges, Gatun; and a miscellaneous cargo aggregating 3,370 packages, weighing 350 tons.

Abangarez, October 21, from New Orleans, with 90 tons fire brick, 5,000 pounds black grease, for stock; 540 sacks oats, for corral use; 166 pieces yellow pine piling, for Gatun.

City of Para, October 20, from San Francisco, with 23 bales rubber sleeves, for suction dredge *Sandpiper*.

Bids for Excavation in Canal Prism.

Bids will be received at the office of the Purchasing Agent on the Isthmus, Isthmian Canal Commission, Culebra C. Z., up to 2 p. m., November 10, 1909, at which time they will be opened in public, for six (6) sections of excavation in the Canal prism north of Barbacoas bridge, as follows:

Section A. Consisting of approximately 33,000 cubic yards of earth.

Section B. Consisting of two (2) parcels of excavation:

1. Containing approximately 70,000 cubic yards, of which it is estimated that 70 per cent is soft rock and 30 per cent earth.
2. Consisting of approximately 1,213 cubic yards of earth.

Section C. Consisting of two (2) small parcels of excavation:

1. Containing approximately 1,529 cubic yards of earth.
2. Containing approximately 1,102 cubic yards of earth.

Section D. Consisting of approximately 9,092 cubic yards of earth.

Section E. Consisting of two (2) parcels of excavation:

1. Containing approximately 39,950 cubic yards of earth.
2. Containing approximately 2,447 cubic yards of earth.

Section F. Consisting of five (5) small parcels of excavation in the town of Bohio, containing in all 2,614 cubic yards of earth.

The location of these sections of excavation and all information and specifications concerning the same, may be obtained at the office of the Division Engineer, Empire, C. Z.

Work must be commenced before December 1, 1909, and completed before October 1, 1910.

Bids will be received for one or more sections and must be accompanied by a deposit of $50 U. S. currency, which deposit will be returned to the unsuccessful bidders. A suitable bond or a deposit equivalent to 5 per cent of the amount bid, will be required from the successful bidder, as a guaranty that the work will be satisfactorily performed, said deposit or bond to be returned on the satisfactory completion of the work.

Bidders will submit a single unit price per cubic yard for all excavation in each section, which price will include all the necessary clearing for the prosecution of the excavation.

No bids will be received from any United States Government employe. Proposals will be received in sealed envelopes, marked, "Proposals for excavation in the Canal prism north of Barbacoas bridge." The right is reserved to reject any or all bids.

R. E. WOOD,
Acting Purchasing Agent on Isthmus.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., October 27, 1909.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Anthoney, Frank
Bennick, F. G.
Bolar, James
Chadfield, Russell E.
Costa, John A.
Coyer, John J.
Decker, Ed.
Gonzalez, Simeon
Gorsuck, Jacob
Graff, Walter W.
Gutierez, Zoila
Jones, O. C.
Kincaid, Mrs. C. (2d class)
Mantooth, Anderson
McGill, Peter, (pkg.)
McLean, Miss C. E. (2d class.)
Needham, Henry
Newbold, Mr. and Mrs. G. W. K.
Nichols, Frederick Chester
Perry, James E.
Round, Arthur B. (3)
Rufaiel, George
Sanders, Mrs. Mary
Smith, Frank
Smith, Albert O.
Webster, William
Winquist, Chas.
Whitney, Geo. A.

LEGAL NOTICE.

United States of America, Canal Zone. } In the Circuit Court, First Judicial Circuit.

A petition having been filed by the Collector of Revenues for the escheat of the estate of Richard Prince, who died intestate at Balboa, on or about the 17th of November, 1908, leaving property to the value of $18.25 U. S. currency, notice is hereby given to all heirs, creditors, or other claimants of the said estate to appear at the courthouse at Ancon on or before the 10th day of December, 1909, for the purpose of filing their claims.

F. H. SHEIBLEY,
Acting Circuit Court Clerk.

Vessels that arrived at or departed from the port of Balboa during the week ended October 22, were as follows:

Arrivals—October 19, *Limari*, from south; October 20, *City of Para*, from San Francisco; October 21, *Quito*, from intermediate ports. Departures—October 19, *Ecuador*, for Guayaquil; *Chiriqui*, for intermediate ports, and *Aysen*, for south ports; October 17, *Barracouta*, for Central America.

COMMISSARY DEPARTMENT.

Commissary Storekeepers.

CRISTOBAL, C. Z., October 23, 1909.

CIRCULAR NO. 88:

To All Concerned—Effective the 25th instant, Mr. J. H Jansen will take charge of the Empire commissary as storekeeper. JOHN BURKE, *Manager.*

Approved:
EUGENE T. WILSON, *Subsistence Officer.*

CRISTOBAL, C. Z., October 23, 1909.

CIRCULAR NO. 89:

To All Concerned—Effective the 25th instant, Mr. R. M. McKenna will take charge of the Culebra commissary as storekeeper. JOHN BURKE, *Manager.*

Approved:
EUGENE T. WILSON, *Subsistence Officer.*

CRISTOBAL, C. Z., October 23, 1909.

CIRCULAR NO. 90:

To All Concerned—Effective the 1st proximo, Mr. H. P. Stevens will take charge of the Gatun commissary as storekeeper. JOHN BURKE, *Manager.*

Approved:
EUGENE T. WILSON, *Subsistence Officer.*

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning October 23:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	27
Chops	per lb	29
Cutlets	per lb	29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	4
Soup	per lb	6
Stew	per lb	10
Corned	per lb., 12, 14,	16
Chuck roast	per lb	14
Pot roast	per lb	16
Rib-roast, second cut (not under 3½ pounds)	per lb	19
Rib-roast, first cut (not under 3 pounds)	per lb	21
Sirloin roast	per lb	22
Rump roast	per lb	22
Porterhouse roast	per lb	22
Steak, Chuck	per lb	15
Round	per lb	16
Rib	per lb	21
Sirloin	per lb	22
Porterhouse	per lb	22
Rump	per lb	22
Tenderloin	per lb	27

MISCELLANEOUS.

Livers—Beef	per lb	11½
Calf	each	65
Shad roes	pair	40
Sausage—Pork	per lb	17
Bologna	per lb	17
Frankfurter	per lb	17
Leberwurst	per lb	17
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	30
Oysters	keg	90
Eggs, fresh	dozen	34
Bluefish	per lb	15

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, fatted	each	1.30
medium weight	each	90
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese, fatted, about 10 pounds	each	2.00
12 pounds	each	2.30

CURED AND PICKLED MEATS.

		Price.
Bacon—Breakfast, whole piece	per lb	27
Breakfast, sliced	per lb	29
Ham—Sugar-cured, sliced	per lb	§25
One-half, for boiling	per lb	§21
Westphalia	per lb	45
Hocks	per lb	‡8
Sugar cured	per lb	20
Beef, salt, family	per lb	10
Pork, salt	per lb	15
Ham, boiled	per lb	28
Ox tongues	each	1.00
Pigs' feet	per lb	8
tongues	per lb	16

DAIRY PRODUCTS.

Butter—Prints, prime quality	per lb	42
Cheese—Roquefort	per lb	45
Philadelphia Cream	each	20
Young America	per lb	22
Swiss	per lb	31
Edam	each	1.05
Camembert	per lb	28
Neufchatel	each	6
Gouda	per lb	34
Parmesan	bottle	20
French cheese in tins—Camembert, Brie, Neufchatel	1-lb tin	20
Milk, Briarcliff	bottle	**25

VEGETABLES AND FRUITS.

Celery	per hd	10
Lettuce	per lb	15
Potatoes, white,	per lb	3½
sweet	per lb	2½
Onions	per lb	3
Squash, Hubbard	per lb	5
Yams	per lb	3½
Turnips	per lb	3½
Carrots	per lb	4
Beets	per lb	5
Cauliflower	per lb	12
Cucumbers	per lb	6
Tomatoes	per lb	7
Lemons	dozen	24
Grapes	per lb	†9
Limes	per 100	80
Watermelons	each	45
Peaches	per lb	12
Cantaloupes	each	10
Cabbage	per lb	4
Apples,	per lb	5
Oranges	dozen	12
Grapefruit	each	4
Plums	per lb	12
Pears	per lb	†8

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Rainfall, October 1 to 23, 1909, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Division—			
Cristobal	6.03	8	17.93
Brazos Brook	2.35	1	12.04
Gatun	2.16	1	12.50
Bohio	2.89	1	11.40
Central Division—			
Tabernilla	3.23	10	13.91
San Pablo	3.25	10	13.77
Gorgona	3.65	23	14.01
Gamboa	3.32	1	14.48
Empire	4.55	1	18.51
Camacho	3 23	1	17.73
Culebra	2.86	15	15.09
Pacific Division—			
Rio Grande	3.07	15	15.48
Pedro Miguel	3.82	6	15.64
Balboa	1.43	5	9.39
Ancon	1.25	1	6.92
Miraflores	4.20	3	15.82
Atlantic Coast—			
Porto Bello (to 5 p. m. Oct. 23)	1.69	6	8.06
Nombre de Dios (Oct. 1 to 16)	3.33	6	9.98
Upper Chagres—			
El Vigia	2.44	5	18.12
Alhajuela	1.86	18	16.58

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending November 3, 1909 (75th meridan time):

DATE.	Low.	High.	Low.	High.	Low.
	A. M.	A. M.	A. M.	P. M.	P. M.
Oct. 28	....	2.41	9.00	3.11	9.21
Oct. 29	....	3.28	9.46	3.55	10.06
Oct. 30	....	4.11	10.31	4.40	10.51
Oct. 31	....	4.55	11.16	5.23	11.37
			P. M.		
Nov. 1	....	5.40	12.02	6.10	....
Nov. 2	12.24	6.25	12.49	6.58	....
Nov. 3	1.15	7.14	1.40	7.51	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO COLON.

Panama	P. R. R.	Thursday	Oct.	21
Prinz Aug. Wilhelm	H.-A.	Saturday	Oct.	23
Allianca	P. R. R.	Thursday	Oct.	28
Thames	R.-M.	Saturday	Oct.	30
Colon	P. R. R.	Thursday	Nov.	4
Prinz Joachim	H.-A.	Saturday	Nov.	6
Advance	P. R. R.	Tuesday	Nov.	9
Atrato	R.-M.	Saturday	Nov.	13
Panama	P. R. R.	Monday	Nov.	15
Allianca	P. R. R.	Saturday	Nov.	20
Prinz Aug. Wilhelm	H.-A.	Saturday	Nov.	20
Colon	P. R. R.	Saturday	Nov.	27
Tagus	R.-M.	Saturday	Nov.	27
Advance	P. R. R.	Thursday	Dec.	2
Prinz Joachim	H.-A.	Saturday	Dec.	4
Panama	P. R. R.	Thursday	Dec.	9
Oruba	R.-M.	Saturday	Dec.	11
Allianca	P. R. R.	Tuesday	Dec.	14
Prinz Aug. Wilhelm	H.-A.	Saturday	Dec.	18
Colon	P. R. R.	Tuesday	Dec.	21
Magdalena	R.-M.	Saturday	Dec.	25
Advance	P. R. R.	Monday	Dec.	27

Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

COLON TO NEW YORK.

Panama	P. R. R.	Tuesday	Nov.	2
Atrato	R.-M.	Wednesday	Nov.	3
Allianca	P. R. R.	Monday	Nov.	8
Prinz Aug. Wilhelm	H.-A.	Tuesday	Nov.	9
Colon	P. R. R.	Tuesday	Nov.	16
Tagus	R.-M.	Wednesday	Nov.	17
Advance	P. R. R.	Sunday	Nov.	21
Prinz Joachim	H.-A.	Tuesday	Nov.	23
Panama	P. R. R.	Saturday	Nov.	27
Oruba	R.-M.	Wednesday	Dec.	1
Allianca	P. R. R.	Thursday	Dec.	2
Prinz Aug. Wilhelm	H.-A.	Tuesday	Dec.	7
Colon	P. R. R.	Thursday	Dec.	9
Advance	P. R. R.	Tuesday	Dec.	14
Magdalena	R.-M.	Wednesday	Dec.	15
Panama	P. R. R.	Tuesday	Dec.	21
Prinz Joachim	H.-A.	Tuesday	Dec.	21
Allianca	P. R. R.	Sunday	Dec.	26
Clyde	R.-M.	Wednesday	Dec.	29

A fortnightly service of the steamers Ancon and Cristobal will be maintained as nearly as possible but changes from the schedule may be found necessary. The following is the schedule:

NEW YORK TO CRISTOBAL.

Ancon	P. R. R.	Sunday	Oct.	24
Cristobal	P. R. R.	Wednesday	Nov.	3
Ancon	P. R. R.	Wednesday	Nov.	17
Cristobal	P. R. R.	Wednesday	Dec.	1
Ancon	P. R. R.	Wednesday	Dec.	15

CRISTOBAL TO NEW YORK.

Ancon	P. R. R.		Nov.	*
Cristobal	P. R. R.	Wednesday	Nov.	17
Ancon	P. R. R.	Wednesday	Dec.	1
Cristobal	P. R. R.	Wednesday	Dec.	15
Ancon	P. R. R.	Wednesday	Dec.	29

*Ancon will probably sail for New York during the first week in November.

NEW ORLEANS TO COLON.

Atenas	U.F.C.	Saturday	Oct.	23
Turrialba	U.F.C.	Saturday	Oct.	30
Abangarez	U.F.C.	Saturday	Nov.	6
Atenas	U.F.C.	Saturday	Nov.	13
Turrialba	U.F.C.	Saturday	Nov.	20
Abangarez	U.F.C.	Saturday	Nov.	27

COLON TO NEW ORLEANS.

Atenas	U.F.C.	Tuesday	Nov.	2
Turrialba	U F.C.	Tuesday	Nov.	9
Abangarez	U.F.C.	Tuesday	Nov.	16
Atenas	U.F.C.	Tuesday	Nov.	23
Turrialba	U.F.C.	Tuesday	Nov.	30
Abangarez	U.F.C.	Tuesday	Dec.	7

COLON TO BARBADOS, CALLING AT TRINIDAD.

Thames	R.-M.	Tuesday	Nov.	9

Sailings of the French line (Cie. Générale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Mercian* for New Orleans, via Kingston, Ja., on or about October 31.

The steamers *David* of the National Navigation Company, and the *Taboga* of the Pacific Steam Navigation Company, leave Panama, for David, province of Chiriqui, and intermediate points, the first and third weeks of each month.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, NOVEMBER 3, 1909. No. 10.

The Canal Record

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Address all Communications
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Heaviest Rainfall in Culebra Cut.

The rainfall in Culebra Cut for the month of October was the heaviest since work was begun there by the Americans in May, 1904. At Empire 21.13 inches fell, and the previous high record for this station was that for November, 1906, when 21.05 inches were registered. The heaviest showers occurred in the afternoon between 1 and 5 o'clock, at a time when they caused most inconvenience. On October 1, one of the heaviest showers ever recorded at Empire occurred between noon and 5 o'clock, when 4.52 inches fell. In the afternoon of October 6 a shower of 2.60 inches was recorded at Empire, and the record for the week at that point was 9.39 inches. Between 3 and 5 o'clock in the afternoon of October 15 the gauges at Empire registered 1.91, and at Culebra 2.79 inches.

Notwithstanding the unequaled rainfall, the excavation in Culebra Cut in October was greater than that of September, according to car measurement, and it is believed the cross section measurement will show an increase in the yardage.

Building Gatun Locks.

The greatest amount of concrete laid in a week at Gatun Locks was placed during the week ending October 30, when 7,988 cubic yards were added to the 33,248 cubic yards that had been placed up to the close of work on October 23. The record of October 24, 1,304 cubic yards, was equaled on October 28. The record of concrete laid to October 30, is as follows:

	Cubic Yards.
August (seven days)	1,298
September (26 days)	11,934
October 1 to 9 (nine days)	6,014
October 10 to 16 (seven days)	6,692
October 17 to 23 (seven days)	7,310
October 24 to 30 (seven days)	7,988
Total	41,236

The daily average for the week ending October 30, was 1,141 cubic yards, and the record by days follows:

	Cubic Yards.
October 24	1,304
October 25	836
October 26	1,164
October 27	1,128
October 28	1,304
October 29	1,300
October 30	952

The work is constantly retarded by the failure of the unloading cableways to deliver rock over the storage bins with sufficient rapidity to charge the cars as they pass under the storage piles. A gang of laborers has been set at work shoveling the rock from the storage piles to the charging valves, but it is not possible to fill the cars quickly enough to keep them moving at their full speed. During the week 23 of the automatic cars between the storage piles and cement shed and the mixing plant were in operation. Representatives of the contractor who is furnishing the steel for the wall forms, have arrived on the Isthmus and the work of erecting the towers has been begun.

Concrete Work at Pedro Miguel Locks.

In the week ending October 30, the concrete laid in Pedro Miguel Locks amounted to 2,991¼ cubic yards, the greatest amount laid in any week since the beginning of the work on September 1. The highest record yet made was that of October 30, when 563 cubic yards were laid. This work is still being done with the temporary mixing plant. The record for the week is appended:

	Cubic Yards.
Prior to October 24	7,688
October 24	85
October 25	345
October 26	469½
October 27	545¾
October 28	500
October 29	483
October 30	563
Total	10,679¼

Slide on Empire-Paraiso Highway.

The material in part of the old French and American dump back of Gold Hill has settled in some places as much as fifteen feet. The slide is near the old French powder house, and involves the abandoned French building, formerly used as a powder house by the Americans. The located line of the highway from Empire to Paraiso, now under construction, runs across this dump, and the line will be changed for a distance of eight hundred feet by moving it westward toward Gold Hill.

Camacho Reservoir Full.

The heavy rains in Empire and vicinity during October have filled Camacho Reservoir, and water is now flowing over the spillway, the capacity of 295,867,000 gallons having been reached. In order to anticipate any shortage in the supply of water for the territory served from this reservoir it is proposed to put flash boards in the spillway and thus raise the level of the water an additional foot. Allowing for a daily consumption of 1,700,000 gallons (exclusive of what is pumped from Camacho River below the reservoir, which amounts to 700,000 gallons per day, until the middle of March, and from that time until the end of the dry season gradually decreases to about 150,000 gallons per day) the water now stored in the reservoir would last until June 5, without additional rainfall. The rainy season usually does not end until about the first of January, and begins again in April or May. The water at present stored therefore seems ample to cover the needs of the coming dry season.

Excavation and Clearing at Tabernilla.

Excavation of the 364,472 cubic yards of material, to be taken out of the Canal prism at Tabernilla on the east bank of the Chagres River, will be begun as soon as the track now being laid from the shop tracks at Tabernilla into the section to be excavated is completed. A steam shovel from the work at Caimito will be used for beginning the digging, but a small part of it will be done by hand. The first cut will be made along the channel excavated by the French for their canal. Later on a second shovel will be cut in. Clearing under the contract recently let has been begun on the 1,000 foot channel from Tabernilla north.

New Commission Buildings.

Plans have been approved for a recreation hall at Porto Bello, to be located near the dispensary. It will be a two-story frame building, 43 feet wide and 69 feet long, with a veranda on both floors extending along either side and across one of the ends. An assembly hall, into which a stage will be built for use when dramatic and other entertainments are given, will be on the second floor, together with a ladies' dressing room. On the first floor there will be a reading room, pool and billiard room, and a men's toilet.

Plans are being prepared for a new commissary at Porto Bello. It will be a one-story frame building, 30 feet wide and 65 feet long, will be located on the beach near the old tug landing, and will contain a salesroom 30 feet long, a storeroom, and a cold storage department with an overhead icing. The commissary facilities at Porto Bello at present are limited to a small space beneath the Commission hotel.

Plans for a commissary at Corozal are also under consideration. They call for a one-story frame building, 40 feet wide and 75 feet long, with a salesroom 45 feet long. The remainder of the space will be used as a storeroom, in one part of which an ice box will be installed. An unloading platform will extend along one side of the building. The exact location has not yet been determined upon, but the building will be so

NOTES OF PROGRESS.

Continued.)

placed that a spur can easily be run to it from the railroad track.

Bids for the new Y. M. C. A. building at Gatun were opened at the office of the Constructing Quartermaster at Culebra on Monday, October 25. Awarding the contract is still under consideration.

The new fire station at Porto Bello, which was erected under the contract plan, is nearly completed.

Orders for Native Lumber Cancelled.

The trial orders for native lumber, aggregating 148,043 feet B. M., to be paid for at the rate of $40 per 1,000 feet B. M., placed with the Bayano Lumber Company some time ago, have been cancelled. Up to the time of making the cancellation of the orders, the company had furnished only 14,300 feet. Some of this lumber was shipped to the Empire shops, and the remainder to the Gorgona shops, where the hardest grades were tested and found fairly satisfactory. The softer varieties, however, were attacked by a species of wood worm, and became utterly valueless in a very short time, so that on the whole the lumber could not be used profitably.

Lumber Shipments.

The *Belle Scotland* is due at the port of Balboa on or about November 5, with a cargo of about 3,500,000 feet of Douglas fir lumber. Another steamer, the *Strathgyle*, is due at the same place later in the month with about 2,500,000 feet. On July 1 of this year about 18,500,000 feet of lumber of all kinds, both for stock and for sepcial uses, remained to be delivered. Since that date, about one-half of the amount has been received. Bids have been opened and contracts awarded on all stock orders, and but one special requisition remains on which bids have not been opened.

Triangulation Survey.

A reconnaissance for stations in the triangulation survey of the Canal Zone was begun in September, and positions have been located from Panama to Gorgona. At present the organization on the survey consists of two locating parties of ten men each, which are clearing and erecting stations, and two observing parties to follow the locating parties and do the necessary instrumental work. The precise methods of the United States Coast and Geodetic Survey, and those used on similar work are being followed.

Health Conditions on Upper Amazon.

The Panama *Star and Herald* of October 29 published a cablegram from Berlin in which it is stated that the German government has warned its citizens of the unhealthfulness of the Amazon region, to which some of the European laborers engaged on the Canal work have been emigrating. The cablegram follows:

"BERLIN, October 27.—The *Norddeutsche*, commenting on the publication at Hamburg, of a statement that the Foreign Minister had granted permission to German workmen to enter the employ of the American company engaged in building a railroad in the upper Amazon, says it is totally untrue. Not only has the Foreign Minister failed to encourage any such movement but he has taken occasion to warn Germans against the unhealthfulness of the country in which the railway in being constructed."

Trinidad Ridge Explorations.

The work of making borings along the westerly ridge of the Trinidad River basin, in order to determine the nature of the material in the saddles, is almost completed, and the report is being compiled. This ridge will form the west shore of Gatun Lake. The explorations have been made by means of diamond drill borings.

Precautions Against Lightning.

A committee has been appointed to report on the cost and practicability of installing lightning arresters on telephone and electric light wires, in order to prevent a recurrence of accidents such as that which resulted in the death of a laborer at signal tower "E" in Culebra Cut on October 15.

After the accident referred to, on recommendation of the Division Engineer of the Central Division, the Department of Sanitation was directed to compile rules for the resuscitation of persons struck by lightning and have them printed in English, French, and Spanish and posted at conspicuous places along the line of the Canal. The recommendation states:

> During the past three summers, a number of men, (over a dozen in all) have been struck by lightning and killed or rendered unconscious. It is my impression that some of the men who died might have been revived and saved had those who were present at the time been familiar with the proper means of resuscitating persons injured by lightning. I find a very general opinion among our employes that there is no use doing anything for a man injured by lightning, except taking him to the nearest hospital if he still appears to be living.

Experiments with Eucalyptus Pites and Lumber.

The Bureau of Forestry of the Department of Agriculture in a letter of recent date asked the Commission to use some eucalyptus piles and lumber on the Canal work for the purpose of ascertaining the value of this wood under conditions such as exist in Panama. The Acting Chairman and Chief Engineer replied that a small shipment of such piles and lumber will be ordered provided the cost delivered on the Isthmus is not prohibitive. The purpose of the Bureau of Forestry is stated as follows:

> In its work on the western coast the forest service is now undertaking practical experiments with several varieties of eucalyptus. These experiments are primarily for the purpose of determining its comparative value with other species such as Douglas fir, yellow pine, white oak, tanbark oak, etc., for use as piling, posts, crossarms, insulator pins, construction work, etc., and have been confined so far to the State of California.
>
> As eucalyptus will undoubtedly be in the market in considerable quantities within a comparatively few years, the service is desirous of covering a rather wide field in its preliminary investigations and experiments with this wood. Two questions of interest on which information is desired from a region with climatic conditions such as obtain in the Canal Zone are:
>
> (1) The action of teredo in salt water on eucalyptus piling.
>
> (2) Its resistance to the attacks of ants when used for construction lumber.
>
> Concerning the first question the following information is of interest:
>
> "The State Board of Harbor Commissioners of San Francisco recently withdrew four eucalyptus piles which had been exposed to the attacks of marine borers for about ten years. In no case had the borers penetrated the heartwood, and the piles appeared to be good for an additional service of ten years. As a result of this demonstration the State Board of Harbor Commissioners is installing a number of eucalyptus piles in the water front of San Francisco."
>
> So far as the ant attacks are concerned, the service believes, on account of its very great density and its constituent oils, this wood will offer much more resistance than those woods now commonly used for construction in the Canal Zone.

Money in Scrap Material.

A statement of scrap material shipped to the United States between January 1 and October 21, 1909, follows:

FRENCH SCRAP IRON.

Cristobal, August 8, 650,400 pounds, at $13.80 per gross ton, $4,006.93.

Allianca, August 11, eight 10-ton boilers, 105,900 pounds, at $24.26 per net ton, $1,284.57; eleven 4½-ton boilers, 93,600 pounds, at $20.70 per long ton, $867.47; five 3-ton car bodies, 10 tons crane parts, 65 tons scrap iron, 180,000 pounds, at 60 cents per hundredweight. (Weight approximate. Returns not yet received.)

Cristobal, August 26, 428,850 pounds, at $13.76 per gross ton, $2,634.78.

Panama, August 28, 665,350 pounds, at $0.935 per hundredweight, $6,221.02.

Ancon, September 15, 1,176,000 pounds, at $14.52 per gross ton, $7,623.

Ancon, October 10, 344,000 pounds (no returns as yet.)

Cristobal, October 21, 1,008,700 pounds (no returns as yet.)

Total shipped to date, 4,652,800 pounds.

Total received for French scrap iron, $22,637.77.

SCRAP SCREENING.

Allianca, February 25, 103,509 pounds, $7,355.

Panama, July 6, 42,910 pounds, at $0.825 per pound, $3,540. Total for scrap screening, $10,895.

Colon, October 2, 18,300 pounds (no returns as yet.)

Total shipped to date, 164,719 pounds.

SCRAP RUBBER, PACKING, HOSE, ETC.

Panama, July 6, 28,486 pounds, $846.28.

Rainfall, October 1 to 31, 1909, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Division—	*Ins.*		*Ins.*
Cristobal	6.03	8	19.13
Brazos Brook	2.35	1	14.75
Gatun	2.16	1	15.52
Central Division—			
Bohio	2.89	1	15.60
Tabernilla	3.23	10	17.02
San Pablo	3.25	10	15.81
Gorgona	3.65	24	15.48
Gamboa	3.32	1	16.98
Empire	4.55	1	21.14
Camacho	3 23	1	20.63
Culebra	2.86	15	17.70
Pacific Division—			
Rio Grande	3.07	15	18.52
Pedro Miguel	3.82	6	17.47
Miraflores	4.20	3	17.30
Ancon	1.25	1	8.76
Balboa	1.54	27	11.20
Atlantic Coast—			
Porto Bello	*1.69	6	8.40
Nombre de Dios	†3.33	6	15.29
Upper Chagres—			
El Vigia	2.44	5	20.70
Alhajuela	1.86	18	19.21

* October 1 to 29. † October 1 to 23.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending November 10, 1909 (75th meridan time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	A. M.	P. M.	P. M.
Nov. 4	....	2.12	8.10	2.38	8.51
Nov. 5	....	3.16	9.15	3.45	10.03
Nov. 6	....	4.29	10.36	4.55	11.21
Nov. 7	....	5.43	11.59	6.05	....
			P. M.		
Nov. 8	12.30	6.48	1.06	7.03	....
Nov. 9	1.23	7.38	1.56	7.53	....
Nov. 10	2.07	8.18	2.23	8.31	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

COCOLI LAKE WATER SUPPLY.

Auxiliary to Rio Grande Reservoir—Character of the Water and Means for Purification.

Plans are being perfected by which Cocoli Lake, an artificial body of water formed by the damming of the Cocoli River, at Miraflores Locks, will be used as an auxiliary water supply for the Rio Grande reservoir.

A pumping station will be located near the Miraflores power house, about 1,000 feet from the lake, and will be equipped with two horizontal turbine pumps, each operated by a 65-h. p. motor, driven by current generated at the electric plant. The filtration apparatus will be located in the basement of the Miraflores power house, and will be a duplicate of that in use at Ancon and Mount Hope, with the exception that whereas the plants at those places consist of three units each, the one at Miraflores will have only two units. Each filter will have a guaranteed capacity of 500,000 gallons every 24 hours, with a minimum pressure of 66 pounds, and maximum pressure of 75 pounds, to the square inch at the influent. The elevation of the filtration plant will be about 20 feet above sea level, and that of the pumping station about 40 feet. Water will be carried to the filters through a 16-inch suction pipe extending to and along the shore of the lake to the point of its lowest elevation, where the intake will extend out for a distance of 65 feet. Connection between the filters and the Rio Grande 16-inch main, about 60 feet west of the power house, will be by means of a 10-inch pipe opening into a 16-inch pipe at the point of junction.

Cocoli Lake has an area of about 100 acres, and is estimated to contain at its normal elevation of 35 feet above sea level, approximately 57,176,000 cubic feet, or 428,820,000 gallons of water, which is about 50,000,000 gallons less than the capacity of the Rio Grande reservoir. The lake is mostly shallow, and for the greater part of its length is very narrow. The water wastes into the Rio Grande above the 35-foot level, but during the heavy rain of October 6, the lake filled so rapidly that it reached a height of six feet above normal. A portion of the bed of the lake was formerly the site of an orchard of tropical fruit trees, orange, mango, marañon, etc., and their tops still show above the water.

An analysis of two samples of Cocoli Lake water shows that it very closely resembles that of the Brazos Brook reservoir in its organic content, which is the determining feature in the purification of the waters of the Isthmus. Bacillus coli, was present in 10 cubic centimeters of each of the samples. This is higher than in the other reservoirs, due to the new bed, on ground formerly cultivated, and to the uncleaned watershed. It, however, presents no difficulty in purifying the water for use, and a system of sedimentation and filtration make it entirely safe and desirable for domestic purposes.

On the watershed of the Cocoli River are 35 plantations, 25 houses, 9 shacks, 11 sheds, a small amount of growing crops, and some fruit trees. A trail from Miraflores and one from Balboa cross the watershed on their way to Arraijan. The village of Arraijan, which is about one-quarter of a mile outside of the Zone boundary line, does not drain onto the watershed, as there is a deep gulch between it and the Zone line, which leads southwest to the Pacific. A committee appointed to consider the matter has recommended that all inhabitants be removed from the watershed, and that the trail be abandoned as far as possible.

In view of the fact that the lock work at Pedro Miguel and Miraflores will require a large amount of water during the period of construction, the project of establishing a pumping plant at the Pedro Miguel River was at one time considered. The use of Cocoli Lake as a reserve water supply will guarantee an adequate amount for all purposes, and at all times. It will be used only in case the supply of the Rio Grande reservoir is becoming low.

Women's Clubs and Other Organizations.

The art collection belonging to the Canal Zone Federation of Women's Clubs has been placed in the hands of the art committee for circulation among the federated clubs in the Canal Zone. The collection includes 37 reproductions of paintings mounted and suitable for exhibition, portfolios containing photographs, examples of the world's twelve great masterpieces with notes explanatory and historical, copies of Italian, French, English, Holland, German, and American paintings, and books containing photographs of ancient Greek and Italian renaissance sculpture. Besides these there are five books on art, including two valuable volumes on American painters and paintings in the Nineteenth Century. The collection will be sent through the Zone for the use of the clubs, and it is expected that it will be lent to the public schools for exhibition purposes.

The business meeting of the Ancon Woman's Club was held on Wednesday, October 20. The club gave a complimentary evening to friends of the members on Monday, November 1, at Ancon hall. There was an exhibit of pictures and informal music. Mrs. Henry Montgomery and Mrs. H. C. Bovay constituted the refreshment committee, and Mrs. Charles W. Boxer had charge of the music. A second entertainment is planned for the near future. Owing to Independence Day in Panama, the next meeting of the club will be held on Thursday, November 4.

Election of officers in the Pedro Miguel Woman's Club held on Wednesday, October 13, resulted as follows: Mrs. George Brown, president; Mrs. Mark White, vice-president; Mrs. E. L. Brown, secretary; Mrs. W. E. Smith, treasurer. These officers are elected for six months. At the business meetings the members work on articles for the projected bazaar. The social meeting on Wednesday, October 20, was held at the home of the president.

The meetings of the Paraiso Woman's Club are well attended and the interest of members sustained. The club gave a Hallowe'en dance at the lodge hall on October 30. Favors of appropriate character were distributed. The Las Cascadas orchestra furnished the music.

Preparations are being made by the Paraiso District of the Canal Zone Red Cross for a dance to be given at the lodge hall on Thanksgiving Eve. Tickets for men will be sold at $1, and for ladies at 50 cents. The music has been engaged.

The Pacific Social Club of Paraiso holds a dancing class every Monday night. A dramatic club is projected. The club will give its regular dance on Saturday evening, November 6.

The Palm Club of Las Cascadas gave its regular dance on Saturday, November 30.

The Gatun children's library is closed, owing to the removal of the books from the schoolhouse to the Commission chapel. As soon as the necessary shelves are in place the books will be circulated as heretofore on two days in the week, a member of the woman's club being in attendance.

An Isthmian Society.

THE CANAL RECORD:

Mr. Seward, in your issue of October 6, has written a letter which I doubt not meets with commendation by most of the workers on the Canal. I have thought for a long time that the workers should organize into some such society as he suggests, and believe were the matter brought more forcibly to the attention of all that it would not be difficult to perfect an organization immediately. Surely the work is of sufficient magnitude for all of us to feel proud that we can participate in it, and if we are proud of the fact, what more fitting tribute to the work than to organize an Isthmian Society, which shall stand for all future time, so far as we personally are concerned. A society of this kind will prove interesting to all of us after the work is completed. My suggestion is that all shall be eligible who served more than one year prior to January 1, 1907, and more than two years subsequent to that time. We need not have any more expense attached to the society than that necessary for such events as shall be decided upon.

Why not call a future meeting at one of the clubhouses, to which those who are interested will go with individual ideas as to what would best constitute such a society, and then organize? If you are interested in this matter, drop a card to Mr. Freeman, general secretary of the Y. M. C. A., Culebra, and he will arrange for a meeting and ample notice of same through THE CANAL RECORD. WM. F. BENNYHOFF.

Cristobal, C. Z., October 23, 1909.

Missing Men.

Any one having information as to the whereabouts of one Thomas E. Evans, supposed to be on the Isthmus, is requested to communicate with the Assistant to the Chairman, Culebra.

Any one who knows the present address of George Hiller, who worked as a steam shovel fireman in the Pacific Division up to six weeks ago, is requested to communicate with Wm. H. Gilson of Tabernilla, C. Z.

The Masonic club, Empire, held its semiannual election of officers on Wednesday evening, October 20. The following were chosen: Rev. William A. Decker, president: Herbert Pierson, vice-president; M. Van Brocklin, secretary and treasurer. There are 54 members. An informal smoker followed the election.

Personal.

Dr. W. E. Deeks returned from his leave in the States on the *Panama*, which arrived at Cristobal on October 27.

LOST—A lady's umbrella, with black metal knob and twisted snake handle, on October 25 at Cristobal. The finder will please return it to House 88, Cristobal.

SUBMARINE PAINTS.

Estimates of the Amounts Used and Method of Purchase.

CULEBRA, C. Z., October 7, 1909.

The Honorable the Secretary of War,
Washington, D. C.

SIR—I have the honor to submit the following report on submarine paints used by the Commission, in compliance with your telegram of the second ultimo to the General Purchasing Officer of the Commission in Washington, covering Congressman Bennet's letter to you of August 25:

1. Description of amount of painting and methods used.

The floating equipment of the Isthmian Canal Commission and Panama railroad (not including vessels of the Panama Railroad Steamship Line) is painted at Cristobal dry dock on the Atlantic side and at the Balboa shipways on the Pacific side. The Commission paints all Panama railroad marine equipment as well as its own. Three blueprints are enclose herewith marked "A," "B" and "C," showing in detail the vessels cared for, as follows:

	Large vessels.	Small vessels.	Square feet immersed surface.
Atlantic side	65	4	314,200
Pacific side	55	16	245,000
Total	120	20	559,200

On account of the limited docking facilities and the fact that the dock at Cristobal has been, in the past, occupied the greater part of the time by vessels undergoing general repairs, it has been impossible to clean and paint vessels on an average oftener than every six to twelve months. The Division Engineers of both the Atlantic and Pacific Divisions are unanimous in considering that this is not often enough and recommend for the future that vessels be cleaned and painted whenever practicable every four months, or three times a year. All submarine paints known or tried deteriorate very much faster in Isthmian waters than in the higher latitudes. The best paint on the Isthmus will not last as long as inferior paints in northern waters.

2. Amount of paint used.

Enclosed herewith is a statement marked "D," giving full data in regard to submarine paints ordered and used during the present calendar year to October 1, 1909, which may be summarized as follows:

	Gallons.
On hand, January 1, 1909, Quartermaster's Department storehouses	None.
On hand, January 1, 1909, Cristobal and Balboa, *i. e.*, drawn but not used	176
Quantity received from January 1, 1909, to date	10,199
Amount drawn from Quartermaster's Department storehouses, from January 1 to October 1, 1909	6,323
Amount on hand at Cristobal and Balboa on October 1, 1909, *i. e.*, drawn but not used	1,670
Amount on hand in Quartermaster's Department storehouses, October 1, 1909	3,875
Net amount of proprietry submarine paint applied to vessels from January 1, 1909, to September 30, 1909	4,830
Or an average consumption per month of	536

It should be stated that this does not include several hundred gallons of anticorrosive paint manufactured on the Isthmus and applied to vessels for trial. Including submarine paints mixed on the Isthmus, the total consumption of submarine paints during the past nine months on the Isthmus has not been over the rate of 7,000 gallons per annum, or about 583 gallons per month. There remained in the Quartermaster's Department storehouses on October 1, 1909, 3,875 gallons, and at Cristobal and Balboa there were drawn but not used, 1,670 gallons, making a total on hand on October 1, 1909, of 5,545 gallons, or very nearly ten months' supply at the present rate of consumption.

I beg to enclose herewith letter of the Acting Chief Quartermaster, dated September 30, 1909, (marked "E"), giving explanation of the different requisitions for submarine paint, which have been placed during the present year. Regarding the requisition for 20,000 gallons of paint, for which bids were called under Poster Circular No. 502, classes 70 and 71, opening of May 3, 1909, requisition covering same was forwarded from the Isthmus on January 25, 1909. Bids received on these two classes were rejected, and the material covered was readvertised for in Poster Circular No. 522, opening of July 23, 1909. As has been stated in correspondence on this subject, bidders on the annual contract are required to submit prices on Proposition "A," which permits the Commission to increase or reduce the quantities specified by 50 per cent, and on Proposition "B," which allows the Commission to purchase any part, or none, of the material advertised for and, also, to increase the quantities called for by 50 per cent or less, as under Proposition "A." Had award been made on submarine paint under Circular No. 502, or No. 522, on Proposition "A," it is true that the Commission would have been obligated to receive 10,000 gallons of paint prior to June 30, 1910, which it is now seen would not have been needed. But, with the award made on Proposition "B," the Commission would not have been obligated to take a gallon of the paint. Before award would have been made either on Circular No. 502, or Circular No. 522, it is but fair to presume that the amount of paint ordered, after the original requisition for 20,000 gallons was forwarded on January 25, 1909, a large portion of which is now on hand, would have been taken into consideration in determining whether award should be made on Proposition "A" or on Proposition "B," from a later and more correct estimate as to requirements.

The reasons which led the Chief Quartermaster to originally estimate, in excess of requirements, for 20,000 gallons of submarine paint are given in the enclosed letter, marked "E." It is further stated therein that the specifications for the containers for the paint were made by the Washington Office of the Commission and were not specified by him.

3. Estimates of future use.

The number of square feet of immersed surface to be protected is about 559,200. Assuming an average covering capacity of 350 square feet for one gallon of paint for one coat, for all submarine painting work, based on two-coat work, 3,200 gallons of paint will be required for each complete painting of the marine equipment. Assuming that the equipment is painted every six months, 6,400 gallons of paint will be required annually. With complete repainting of equipment every four months, or three paintings per year, 9,600 gallons of submarine paint will be required. It seems evident, therefore, that the annual requirements of the Commission for submarine paint will not exceed 10,000 gallons. Based on an average of $1.50 per 100 square feet, for two-coat work, including cost of cleaning and docking, the cost of one complete painting of all marine equipment amounts to $8,400, or $16,800 per annum for two complete paintings, and $25,200 for three complete paintings.

4. The most economical paint.

As stated hereinbefore, in order to properly preserve the exterior hulls of vessels, the Division Engineers concerned recommend, with present materials, that all hulls be painted three times each year. The cost of the material and labor is not the main cost to be considered. A more important item is the loss entailed in lessened output when vessels are laid up for cleaning and painting. The average output per working day of the dredging fleet during the past year has been 50,000 cubic yards, and the cost $7,500. The average time required for docking and undocking, and cleaning and painting a vessel with two coats of paints is about two days. If the entire marine equipment were cleaned and painted at one time the total cost of cleaning and painting added to the cost of reduced output would be $15,000 for the two days. In docking vessels one at a time, owing to the fact that they are sometimes cleaned and painted while out of service undergoing repairs, it would probably not be fair to charge up more than $10,000 as the loss on account of one complete painting. With two paintings per year this amounts to $20,000, and with three paintings per year to $30,000. With three paintings per annum the total cost to the Commission, therefore, amounts to about $25,000 for the direct cost of labor and material in painting, and to about $30,000 for lessened output due to the loss of time in dredging. If a paint or protective material can be purchased that would be so efficient as to last fully six months, requiring only two paintings per annum, it is thus seen that it would be economy to purchase such a paint even though its cost were more than double that of the paint which lasts only four months.

5. Future policy to be followed.

The present situation is as follows: We have on hand nearly ten months' supply of paint, and no further purchases need be made until the expiration of that time. During that period the results obtained from the different paints now in use will be closely watched and a careful record kept of both their costs of application and efficiency, so reliable data will be available when the time comes to purchase more submarine paint.

So far as can be anticipated three methods of procedure at least will be open for consideration at that time:

First—To continue the purchase of proprietary paints under general specifications on an annual contract; amount called for to be not over 10,000 gallons.

Second—To purchase submarine paints from the Navy Department in general accordance with the General Purchasing Officer's letter to the Chief Quartermaster, dated July 27, 1909, copy enclosed herewith marked "F."

Third—To continue experiments with submarine paints made on the Isthmus with a view of manufacturing same on a larger scale. To date, several formulae have been derived which give fairly good results for anticorrosive use. The experiments have not been carried far enough to develop a satisfactory antifouling paint.

No conclusive results have as yet been obtained from the tests of proprietary submarine paints.

It is the endeavor of the Commission to carry as little stock on the Isthmus as the needs of the work will permit. The list of material ordered from the United States numbers upward of 25,000 different items, the demand for a large proportion of which is constantly fluctuating. The Quartermaster's Department endeavors to regulate orders for material so as to secure the greatest economy practicable. Any instances reported by any one interested in the work, suggesting points where improvement can be made, are always welcomed, carefully investigated, and correction applied.

Very respectfully, H. F. HODGES,
Acting Chairman and Chief Engineer.

SANITATION OF PANAMA.

Plans Approved for Work to be Done in Suburbs.

Plans have been approved for a part of the work to be done in portions of the city of Panama not heretofore placed in sanitary condition. The work is undertaken at the instance of the Department of Sanitation of the Isthmian Canal Commission, because, in the opinion of the Chief Sanitary Officer, the districts to be improved "are already closely occupied and would be very hard to sanitate in case of the introduction of plague." Under Article VII of the Treaty of February 26, 1904, the work will be done by the Commission, and payment will be made by amounts deducted from the water rates collected for the city of Panama. The Sundry Civil Act of March 4, 1909, contained an appropriation of $800,000 for sanitary work in Panama and Colon, and of this amount not over $250,000 will be spent in Panama.

The work authorized involves the opening of streets through sections not regularly laid out, the installation of water mains and sewers, and the macadamizing and draining of the roadways. In all the districts to be improved a certain amount of filling will be necessary. As much as is used between curb lines of the streets, will be paid for from the appropriation. As far as it involves an improvement to land not in the streets the filling will be paid for by property owners or lessees. By direction of the Chief Engineer only such work will be done before the coming dry season as may be accomplished without extra expense on account of the rains. Meanwhile the materials for sewers and curbs have been ordered, and private holders are preparing for the work by moving buildings, or erecting new ones within the approved lines.

The improvements proposed may best be understood by dividing the property to which they are applied into three parts:

First—All that property between Central Avenue and the Sabanas road on the west, extending eastward about 2,000 feet. On the south it is bounded by East Sixteenth and East Fifteenth streets, and on the north it extends to a point on the Sabanas road about 1,300 feet north of the Caledonia Bridge.

Second—The property bounded by Central Avenue on the east, the Canal Zone line on the west, Fourth of July Avenue on the south, and on the north by a line extending west from the point on the Sabanas road 1,300 feet north of the Caledonia Bridge.

Third—About 22 acres of land in the section commonly known as Cocoa Grove, located between the beach and the Balboa road, near the Panamanian cemetery.

East of Central Avenue.

Work has already been begun in the section east of Central Avenue and the Sabanas road, where buildings are being torn down in order that they may be rebuilt in places where they will not encroach on the street lines. The districts in the order in which the work will be taken up are: Marañon, El Trujillo, Guachapali, Caledonia, Sixteenth street district. All the districts except the Sixteenth street district, lie east and north of the Panama railroad yards. Between high water mark in the bay and Caledonia Bridge, seven streets have been laid out at a distance of 250 feet from center line to center line, and extending from Calle del Istmo, which runs parallel with the railroad yards, to the end of the inhabited section, thus dividing Marañon, Guachapali, and El Trujillo into regular blocks about 600 feet long and 250 feet wide. A similar plan has been followed in laying out Caledonia. In all, 13 streets, each with a roadway 24 feet wide and sidewalks 13 feet wide, and with a total length of 9,600 feet, have been laid out. The estimated cost of making the improvements in this section, including filling, macadam paving, curbs, gutters, sewers and water mains is $39,106.50.

A 10-inch trunk sewer with 8-inch connecting sewers will be laid through the center of the streets and will connect with the outfall sewer that runs along the edge of the beach and finally empties into the bay. The total area of the property to be improved is 127,767 square yards, and the amount of filling necessary to bring it to grade is 10,782 cubic yards. More than half of this property is owned by the Panama Railroad Company. The population of Marañon, El Trujillo, Guachapali, and Caledonia has been determined by a health department census as 4,900, an average of one person to 26 square yards. This average is misleading unless it is understood that the population is not evenly distributed, some parts of the districts being unoccupied, while others are dense in inhabitants.

The Sixteenth street district is comprised between the Panama railroad yards on the east and Central Avenue on the west, East Sixteenth street on the south and the triangle near the Panama railroad station on the north. It is 16.52 acres in extent, 1.15 acres of which belong to the Panama Railroad Company, and the remainder to private holders. Avenue B, recently opened from the railroad station south toward the center of the city, runs through the eastern part of this district, and Central Avenue bounds it on the west. A street will be opened from Central Avenue, at the corner of West Sixteenth street near the Episcopal Church, to Avenue B. This street will be 520 feet long, and will be known as Lyons street. From a point on Central Avenue, opposite Fourth of July Avenue, another street, to be known as Obarrio Place, will be opened to Avenue B. Between Obarrio Place and the triangle near the Panama railroad station the alleys known as East Twentieth, East Twenty-first, East Twenty-second and East Twenty-third streets, will be improved. Each of these streets will be 18 feet wide, will contain a 6-inch sewer, a 6-inch water main, and will be macadamized, and curbed with concrete. The cost of this improvement is estimated at $15,352.62. The property benefited is 36,665 square yards in area, and the necessary filling to bring it to grade is estimated at 5,114 cubic yards.

West of Central Avenue and the Sabanas Road

The section for which sanitation has been recommended west of Central Avenue and the Sabanas road, is in four districts, known respectively as La Calzada, Pueblo Nuevo, Santa Cruz, and San Miguel. Work in the last named three districts will be taken up last, and the extent to which it is carried will be determined somewhat by the amount of money available.

La Calzada is the district bounded on the west by the Canal Zone line, on the east by Central Avenue, on the north by the Tivoli road and on the south by Fourth of July Avenue. It has an area of 10.33 acres, and an estimated population of 1,500. All the land is owned by private holders. Ancon Boulevard runs practically through the center of the district from Fourth of July Avenue to the Tivoli road, and José Higinio street connects Ancon Boulevard with Central Avenue. It is not proposed to open new streets in this district at present, but merely to improve the streets already laid out, and install sewers and water mains. Ancon Boulevard is to be macadamized to a width of 20 feet, concrete gutters will be put in, and 6-inch sewer and water mains laid, the estimated cost being $6,617.81. José Higinio street will be improved in the same way, at a cost of $2,307.20. The whole improvement contemplated for this district is estimated to cost $10,710.02.

For the present no work will be undertaken in Pueblo Nuevo, because the Panama Railroad Company has decided to move all the inhabitants off from its half of the district. An estimate has been made, however, of the cost of installing sewers and laying water mains, and the amount required will be $1,928.76 for Panama railroad property, and $1,326.04 for private property.

Cocoa Grove District.

Some work has already been done in the Cocoa Grove district where Panamanian prisoners, under the direction of the engineering department of that Government, have done some grading. In the 22.96 acres contained in this district 2,564 people are living. At present this district is entered from the Balboa road by four streets—Sixteenth, Seventeenth, Eighteenth, and Nineteenth streets west—which are crossed by a street running practically parallel to the Balboa road. Nearly all of the center block of the inhabited part is occupied by a soap factory.

Plans for the improvements in this district have not yet been approved, but they will be of the nature of the improvements elsewhere—the opening up of new streets, widening and paving old ones, laying sewers and water mains, and providing drainage. A tentative estimate of the work proposed places its cost at $33,641.90.

Washington Reading Room Club Meeting.

At a meeting of the Washington Reading Room Club held on Friday evening, October 15, the positions of secretary and librarian were consolidated, and Mr. A. C. Harragin was elected to fill the office. Mr. F. W. Blair was elected treasurer to fill the vacancy created by the resignation of Mr. P. G. Hoyt. A constitutional amendment was adopted providing for the control of the club by an executive committee to be elected annually.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Las Cascadas, C. Z., on Sunday, November 7, 1909, at 6 p. m. The program follows:

1 March—*Santiago Flynn*....................Morse
2 Selection—*A Waltz Dream*....................Strauss
3 Ballet—*Flight of the Birds*....................Rice
4 { *a* Caprice—*Thistledown*....................Bagley
  { *b* Intermezzo—*Napanee*....................Williams
5 Overture—*Light Cavalry*....................Suppe
6 Waltz—*Thousand and One Nights*..........Strauss
7 Serenade—*La Paloma*....................Yradier
8 Medley Selection—*The Glittering Glow Worm*....................La Farge
Introducing "Sambo," "If I had a Thousand Lives to Live," "I've Lost My Teddy Bear," "I am Longing for Some One to Love Me," "Glow Worm," "Ada, My Sweet Potater," "Henry's Barn Dance," and "The Big Red Shawl."
9 Descriptive—*Heap Big Injun*..............Sawyer
10 March—*Under the Double Eagle*..........Wagner

CHAS. E. JENNINGS, *Musical Director*.

A concert will be given at Gorgona on Sunday, November 14.

CANAL ZONE CHURCH WORK.

Efforts of Regular and Missionary Organizations.

Bishop Junguito of Panama has appointed Rev. Henry C. Pouget, late a member of the faculty of St. Charles' College, Ellicot City, Md., pastor of the Roman Catholic congregation at Balboa. Father Pouget will begin to hold services at Balboa as soon as a proper building for that purpose can be procured. A meeting of the Catholic men of Balboa has been called for 8 o'clock, Friday evening, November 5, to consider means of establishing a church and building a schoolhouse.

There will be two masses celebrated every Sunday morning in the new Joseph's Catholic church, Cristobal, at 7 and 8.30, respectively, beginning November 6. The first one will be a low mass with a sermon in French, and the second one will be a high mass with a sermon in English. Catechism classes will be held at 4.30 p. m. Sundays, and at 4 p. m. Tuesdays and Fridays.

Episcopal Church Work.

The second annual meeting of the Woman's Altar Guild of St. Luke's Church, Ancon, was held at the home of Mrs. Charles H. Mason, November 1. The meeting was preceded by corporate communion of the Guild, which took place at the morning service.

St. Luke's Guild was organized on December 2, 1907, by the Chaplain, Ven. Archdeacon Henry B. Bryan, at the home of Mrs. Fleetwood Gruver, with 16 charter members. Of this number, several are still active in the work, others have become associate members, and honorary membership has been conferred on five, on their removal from the Isthmus. The opening of the year just completed was marked by the annual reception to members of the congregation, and residents of Ancon, Balboa, and Corozal, given at the Hotel Tivoli. This was followed by a cake sale, at which the sum of $50 was realized. On Christmas Day, 1908, the first service was held in the new chapel; the Guild assisted in the removal from the temporary chapel, prepared the hangings and the decorations, and arranged for the special music of the day. The Sunday school festival, under the auspices of the Guild, was held in the old chapel on December 28. The tree was presented by the nurses of the Ancon Hospital staff, the gifts by the church, the Guild, and individual members. During the Lenten season weekly meetings were held at the home of the chaplain, when there were readings by the rector or his representative, and the members sewed for various charitable purposes. The Easter offering of the Guild was a baptismal font of Caen stone. A gift of $25 from the pupils of St. Mary's school, Garden City, Long Island, enabled the Guild to purchase handsome silk hangings for the Trinity season and other necessary furnishings for the altar. Bibles for distribution in the wards of the hospital were also purchased at this time. Since the organization but one meeting has been omitted, that which fell on the Fourth of July, 1909. Although the Guild is not a social organization, the meetings which are held at the homes of members on the first and third Monday in each month, are pleasant social occasions.

The first anniversary of the laying of the cornerstone of St. Mary's Church, Empire, was observed on Sunday evening, October 24. At the close of evening prayer a program was rendered consisting of vocal selections by Mrs. Faure, Mrs. Ludwig, Mr. Dorman, and Mr. Conner, and selections on the violin by Mrs. Decker and Miss Smith. One hundred people were present. The cornerstone of the building was laid on Sunday, October 25, 1908, by the Ven. Archdeacon H. B. Bryan, assisted by Lieut.-Col. H. F. Hodges, and the fraternal societies of Empire. The church was completed and occupied on November 29. A Sunday school was organized on the first Sunday in September, with 24 members. Services are held on Sunday evening at 7.45, and holy communion on the first Sunday in the month at 7.30 a. m., and on the third Sunday at 10 a. m.

Mission Work Among Negroes.

Rev. George H. Penny, superintendent of the Christian Mission of Barbados is on a visit to the Isthmus inspecting the branches of his organization established in the Canal Zone and in Panama. The first branch was established at Panama in 1905, and now regular meetings are held in Colon, Gatun, Gorgona, Culebra, and Balboa. A meeting house is in course of construction in Ancon, and a school is maintained in Colon. The Christian Mission is affiliated with the Christian Alliance of New York. Its home office is in Bridgetown, Barbados, and it has branches in Trinidad, St. Lucia, St. Vincent, Dominica, Antigua, St. Eustatius, St. Thomas, Saba, British Guiana and Panama. There are thirty stations in Barbados alone. The services conducted under the auspices of the organization are undenominational in character. A 12-page monthly publication is issued by the home office, and four hundred copies of it are sold in the Canal Zone and in Panama. Bibles are also sold and distributed free.

A Beleaguered Chapel.

Standing near the edge of a 40-foot cliff, which forms a bend in the Panama railroad near the old section of Bas Obispo, is the little Protestant Episcopal Church, known as the Church of the Ascension. It is one of the oldest places of worship along the Canal, the corner stone having been laid in 1885, and the building completed the following year.

When the site was selected the railroad was quite a distance away. The widening of the Canal compelled the moving of the tracks farther westward, until at the present time only a piece of ground a dozen feet in width separates the foundations of the church from the railroad cut. The building not only occupies a precarious position on account of its proximity to the verge of the cliff, but as it stands directly opposite a portion of Bas Obispo cut where heavy blasting is done, every little while it is a target for falling rocks and other objects. Two pieces of railroad iron, each weighing several pounds, are retained as souvenirs of these visitations, which fortunately have generally happened when the church was empty, although the catechist lives in the rear.

The side of the cliff, which is composed of earth and rock, is slowly but surely crumbling away. Each severe blast as well as every heavy rain loosens it a little, and but for the trees that grow in the narrow space between the church and cliff, the insecurity would be intensified. The Division Engineer of the Central Division has notified the church officials to report if the danger of a cave-in becomes imminent, and he will take steps to have the building moved to a safer location.

The church is on private land and serves the colored laborers and their families at Matachin, Palmito, Bas Obispo, Haut Obispo, and from across the Cut. There are accommodations for 150 persons, and the attendance at services ranges from 50 to 100. A catechist has charge of the work, and services are held each Sunday. , A private school is conducted during the week.

OFFICIAL CIRCULARS.

Independence Day in Panama.

CULEBRA, C. Z., October 29, 1909.

CIRCULAR No. 289:

Wednesday, November 3, 1909, the anniversary of the Independence of the Republic of Panama, will be observed as a holiday in the Canal Zone, and as far as possible, all public business will be suspended on that day. H. F. HODGES, *Acting Chairman.*

Acting Superintendent of Clubhouses.

CULEBRA, C. Z., October 23, 1909.

CIRCULAR No. 288:

Mr. A. Bruce Minear, superintendent of clubhouses, having resigned, effective October 25, 1909, Mr. Floyd C. Freeman will temporarily assume his duties.

H. F. HODGES, *Acting Chairman.*

Acting Superintendent of Public Works.

EXECUTIVE OFFICE,
ANCON, C. Z., October 26, 1909.

CIRCULAR No. 90:

Mr. J. J. Reidy, Assistant Superintendent of Public Works, is designated as Acting Superintendent of Public Works, effective October 26, 1909, to continue during the absence on leave of Mr. Geo. H. Ruggles.

H. H. ROUSSEAU,
Acting Head of Department of Civil Administration.

Resolutions of Sympathy.

At a meeting of Paraiso Court, No. 5, Independent Order of Panamanian Kangaroos, held on October 23, 1909, the following resolutions were passed:

WHEREAS, The Almighty God in His infinite wisdom, has called from among us our beloved brother, James G. Worrall; it is therefore

Resolved, That Paraiso Court of the Independent Order of Panamanian Kangaroos, mourns the loss of an esteemed member, whose honor, integrity and dealings with his fellowmen have so endeared him to us that in this hour of grief we stand appalled by our loss; and be it therefore further

Resolved, That this order do hold a court of sorrow and therein mourn the loss of our beloved brother, and that to the stricken family of him who has gone before, the sympathy of this court, which so keenly feels the loss, be extended; and be it further

Resolved, That our comrade whose mortal years are done and whose soul is now in the valley of the peace, has left naught behind but his love, and that we do supplicate Thou, who to the mercy seat of our souls doth gather, to give unto him eternal rest, and let Thy perpetual light shine upon him.

W. B. JORDAN, *Chairman*, W. E. ELLENWOOD, JACOB GRAFF, *Committee.*

Pedro Miguel, October 28, 1909.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., November 3, 1909.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Allexan, Jos.
Anderson, Mrs. Nellie
Blanco, José (2)
Bodle, Robt.
Bradshaw, Ben
Carter, C. P.
Clare, Thomas
Coyne, Jno. J.
Fields, Robert
Green, Frank
Geibm, Mrs. James R.
Halstead, William Maurice
Hehmeyer, E. H.
Kennedy, Maurice
Kimball, Master James Stewart
Lantz, A. G.
Lowe, William E.
Majors, Mrs. J. I.
Martin, L. D.
McCullock, A. P.
McInnes, Miss Katherine
Mulcare, Rev. J. T.
Nash, Supt.
Nick, Edwin
Nutter, R. B.
Ousley, G. T.
Park, Charles E.
Ripley, J.
Rossiter, Lawrence J.
Sherry, Miss Laura E.
Smith, F. T.
Stevens, William H.
Sweeny, Miss Elizabeth
Vincent, J. A.
Webster, William
Willour, Joseph
Wood, Emory B.
Woodring, Harvey

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

BOWLING TOURNAMENT CONTESTS.

The bowling tournament games between Empire and Culebra, at Empire, Wednesday night, October 27, resulted as follows:

Empire.	*First.*	*Second.*	*Third.*	*Total.*
Brown	172	166	169	507
Potter	210	155	185	550
Gorham	169	186	137	492
Hinckley	157	194	177	528
Huson	216	178	189	593
Total	929	879	857	2,665
Culebra.				
Lamster	179	169	149	497
Hayes	124	182	173	479
Winters	142	155	150	447
Cohen	119	152	146	417
Dougberty	146	165	157	468
Total	710	823	775	2,308

The bowling tournament games between Empire and Cristobal, at Empire, on Saturday night, October 30, resulted as follows:

Empire.	*First.*	*Second.*	*Third.*	*Total.*
Brown	160	178	149	487
Potter	163	152	145	460
Bardelson	136	171	155	462
Hinckley	171	130	152	453
Huson	154	162	197	513
Total	784	793	798	2,375
Cristobal.				
Bullard	213	178	181	572
Louch	192	184	164	540
Collins	186	143	154	483
Strong	183	157	189	529
Gilmartin	168	166	153	487
Total	942	828	841	2,611

The bowling tournrment games played at Gorgona on Saturday night, October 30 between Gorgona and Culebra, resulted as follows:

Gorgona.	*First.*	*Second.*	*Third.*	*Total.*
Otis	134	159	144	437
Haldeman	151	142	130	423
Roper	185	140	182	507
Humphrey	121	127	133	381
Sexton	150	174	147	471
Total	741	742	736	2,219
Culebra.				
Lamster	203	180	177	560
Herrington	139	170	135	444
Winters	145	153	136	434
Morgan	148	163	145	456
Dougherty	159	180	140	479
Total	794	846	733	2,373

GORGONA.

The Hagy Moving Picture Company gave a second entertainment on Friday night, October 29, before a fair sized audience.

On Friday night, November 5, a meeting for the purpose of organizing a chess club will be held in the game room at 8 o'clock.

Sunday evening Judge Thomas E. Brown, Jr., of Cristobal, made an address at the monthly song service. Special music was rendered by Miss Edith Anderson and H. R. Salmon.

CRISTOBAL.

On Monday night a game of basket ball was played between a team from the U. S. cruiser *Tacoma* and the Y. M. C. A. team. The Y. M. C. A. team won by a score of 17 to 11.

On Thursday night Cristobal Y. M. C. A. defeated a team from the *Tacoma* in a game of indoor baseball by a score of 28 to 21.

The association has extended the courtesies of the Y. M. C. A. building to the officers and men of the U. S. cruiser *Des Moines*. Basket ball and indoor baseball games will be arranged between teams from the *Des Moines* and the Y. M. C. A.

EMPIRE.

The tie bowling game between Messrs. Mead and Barrett, left over from the June tournament, was rolled off Saturday night. The scores were, Mead 181, Barrett 197, Barrett winning the medal.

Until further notice Monday, Wednesday and Friday nights will be reserved for duck pin bowlers. All other nights will be held for 10-pins.

CULEBRA.

The average attendance in the Monday and Wednesday night gymnasium classes for the past month has been thirteen. The musical accompaniment to the drills has proven popular and will be continued.

The weekly Bible class under the leadership of Mr. Freeman met Wednesday night, with ten men present. This week owing to Mr. Freeman's illness, Mr. Goodman will take charge, and the class will meet Friday evening instead of Wednesday, owing to the holiday on November 3.

A members' smoker was held Friday night with a good sized and enthusiastic crowd present. The program included selections by the orchestra; quartet numbers by Messrs. Kramer, Kersey, Tupper and Case; solos by Messrs. Case and Kersey; monologue and songs with illustrated slide by Mr. Flynn; Indian club swinging by Mr. Kramer; parallel bar exhibition by Messrs. Ludwig, Heinrich and Kramer; blind folded boxing by Messrs. Lindsay and Fitzgerald, and wrestling by Messrs. Bandford and Hartman. Old popular songs were sung.

Gorgona defeated Culebra Saturday night in indoor baseball by the score of 19 to 12. The following was the line up of the teams:

Gorgona.	*Positions.*	*Culebra.*
Weiser	Pitcher	Tupper.
Robertson	Catcher	Cushing.
Cuff	1st base	Fleishman.
Blackburn	2d base	French.
Ridge	3d base	Goodman.
King Carpenter	Fielder	Kirk.

Beginning with Friday November 12 an informal "Stunt Party" will be held each Friday night at the Y. M. C. A. Music, singing and one or two regular numbers will be given. The type of vaudeville program has proved so popular here that this scheme will be tried.

The indoor baseball team plays Cristobal at Culebra Saturday night. This game will be preceded by a handball match between teams from the same towns.

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal and Colon during the week ended October 30, 1909, with supplies for the Isthmian Canal Commission:

Rosa Lea, October 24, from Gulfport and Mobile, with 1,398 pieces yellow pine piling, and 18 tons washers, for stock; 463 pieces yellow pine piling, for Gatun; 16,887 feet white oak lumber, and 150,000 feet yellow pine lumber, for car repairs; 200 tons pig iron, for foundry; 30 tons washers, for Gatun and Miraflores

Siberia, October 26, from New York, with 420,000 pounds hay, for corrals; 300 barrels coal tar, 10 barrels sulphate of copper, and 50 cases lye, for stock, 11,500 pounds caustic soda, for use in manufacture of larvacide.

Panama, October 27, from New York, with 635 kegs rivets, for car repairs, Gorgona; 1,287 kegs, bolts, nuts and rivets; 27 cases electric fuses, and 800 cases lubricating oil, for stock; 5 reels wire rope, for floating equipment; 59 tons car forgings, for Gorgona; and a a miscellaneous cargo aggregating 5,825 packages, weighing 623 tons.

Mercian, October 28, from Liverpool, with 144 barrels carbolic acid, for use in the manufacture of larvacide.

Atenas, October 28, from New Orleans, with 91, pieces yellow pine piling, for Gatun; 80 tons fire brick, and 1,000 cases kerosene oil, for stock; 260 tons cast iron water pipe, for Balboa water extension; 25 tons car castings, for Gorgona: 29,730 feet yellow pine lumber, for sand wharf, Balboa; 9,000 feet ash and hickory lumber, for wagon repairs.

Viscaina, October 30, from Baltimore, with 785,550 pounds dynamite; 6,000 pounds track spikes; 30,000 pounds boat spikes, and 120,950 feet yellow pine lumber, for stock; 1,800 car wheels, for Gorgona; 3,845 pieces 8-inch vitrified pipe, for Panama improvements; 108 tons structural material, for locks; 107 tons steel plates, and 17,363 feet oak lumber for car repairs; 470 tons structural material, for moveable towers, Gatun; 12 tons discharge pipe, for dredge *Culebra*.

The following vessels arrived at or departed from the port of Balboa during the week ended October 29: Arrivals—October 24, *Arica*, from Guayaquil *Lansing*, north (Union Oil Company); October 29, *Peru*, from San Francisco; *Chiriqui*, from intermediate ports; *Guatemala*, from south ports. Departures—October 23, *Limari*, for south; October 24, *Lansing*, for Port Harford; October 28, *Quito*, for intermediate ports; October, 29, *Arica*, for Guayaquil

PANAMA RAILROAD COMPANY.

PASSENGER TRAIN TIME TABLE No.5—IN EFFECT AUGUST 15, 1909.

SOUTHWARD.								Miles from Colon.	STATIONS.	NORTHWARD.									
SUNDAYS AND HOLIDAYS.					WEEK DAYS.					WEEK DAYS.				SUNDAYS AND HOLIDAYS.					
29	27	25	23	21	7	5	3			2	4	6	8	20	22	24	26	28	30
P. M.	P. M.	P. M.	A. M.	A. M.	P. M.	A. M.	A. M.			A. M.	P. M.	P. M.	P. M.	A. M.	P. M.	P. M.	P. M.	P. M.	P. M.
7.00	4.00	1.00	10.00	6.45	4.35	10.30	5.15	0.00	Leave. †Colon. Arrive.	9.05	1.15	3.50	8.00	9.00	12.15	3.15	6.15	9.15	11.55
7.05	4.05	1.05	10.05	f 6.50	4.40	f 10.37	5.20	1.77	†Mount Hope	8.58	f 1.07	f 3.42	7.52	8.53	f 12.08	f 3.08	f 6.08	f 9.08	f 11.48
f 7.10	f 4.10	f 1.10	f 10.10	f 6.55	f 4.44	f 10.42	f 5.25	4.37	Mindi	f 8.51	f 1.01	f 3.36	f 7.44	f 8.47	f 12.02	3.02	f 6.02	f 9.02	f 11.42
															P. M.				
7.18	4.18	1.18	10.18	7.03	4.52	10.50	5.33	6.79	†Gatun	8.43	12.54	3.30	7.32	8.40	11.55	2.55	5.55	8.55	11.35
f 7.27	f 4.27	f 1.27	f 10.27	f 7.12	f 5.01	f 11.00	5.42	10.41	Lion Hill	8.33	f 12.42	3.19	f 7.23	f 8.29	f 11.44	f 2.44	f 5.44	f 8.44	f 11.24
f 7.33	f 4.33	f 1.33	f 10.33	f 7.18	f 5.06	f 11.06	f 5.49	12.48	Ahorca Lagarto	8.27	f 12.35	3.13	f 7.16	f 8 23	f 11.38	f 2.38	f 5.38	f 8.38	f 11.18
7.40	4.40	1.40	10.40	7.25	5.13	11.13	5.56	15.26	†Bohio	8.20	12.29	3.05	7.09	8 18	11.33	2.33	5.33	8.33	11.13
7.47	4.47	1.47	10.47	7.32	5.22	11.22	f 6.05	18 51	Frijoles	8.10	f 12.21	f 2.58	6.59	8.10	f 11.25	f 2.25	f 5.25	f 8.25	f 11.05
7.55	4.55	1.55	10.55	7.40	5.31	11.31	6 12	21.37	†Tabernilla	8.03	12.15	2.50	6.50	8.04	11.19	2 19	5.19	8.19	10.59
8.00	5.00	2.00	11 00	7.45	5.37	11.37	6.18	23 30	†San Pablo	7.58	12.08	2.46	6.45	7.57	f 11.12	2.12	5.12	8.12	10.52
f 8.02	f 5.02	f 2.02	11.02	f 7.47	f 5.40	f11.40	6.20	24.31	Bailamonos	......	f 12.03	2.43	f 6.42	f 7.53	f 11.08	f 2.08	f 5.08	f 8.08	f 10.48
8.08	5.08	2.08	f 11.08	7.51	5.45	11.45	6.25	25.74	†Mamei	7.50	12.01	2.40	6.39	7.49	11.04	2.04	5.04	8.04	10.44
											P. M.								
8.13	5.13	2.13	11.13	7.58	5.53	11.53	6.33	28.27	†Gorgona	7.41	11.53	2.32	6.33	7.42	10.57	1.57	4.57	7.57	10.37
8.18	5.18	2.18	11.18	8.03	5.58	11.58	6 37	29.68	†Matachin	7.36	11.48	f 2.27	6.28	7 37	10.52	1.52	4.52	f 7.52	f 10.32
						P. M.													
8.22	5.22	2.22	11.22	8.08	6.03	12.03	6.42	31.01	†Bas Obispo	7.32	11.43	2.23	6.24	7.33	10.48	1.48	4.48	f 7.48	f 10.28
8.29	5.29	2.29	11.29	8.16	6.10	12.10	6.49	32.62	†Las Cascadas	7.25	11.35	2.16	6.17	7.25	10.40	1.40	4.40	7.40	10.20
8.34	5.34	2.34	11.34	8.21	6.17	12.17	6.56	34.91	†Empire	7.17	11.29	2.10	6.12	7.21	10.36	1.36	4.36	7.36	10.16
8.39	5.39	2.39	11.39	8.26	6.22	12.22	7.03	35.90	†Culebra	7.10	11.24	2.05	6.08	7.15	10.30	1.30	4.30	7.30	10.10
8.47	5.47	2.47	11.47	8.35	6.32	12.32	7.07	39.71	Paraiso	6.54	11.11	1.50	5.54	f 7.06	f 10 21	1.21	4.21	f 7.21	10.01
8.51	5.51	2.51	11.51	8.40	6.37	12 38	7.11	40.37	†Pedro Miguel	6.51	11.07	1.48	5.50	7.03	10.18	1.18	4.18	7.18	9.58
8.56	5.56	2.56	11.56	8.45	6.42	12.43	7.16	41.73	†Miraflores	6.42	11.02	f 1.44	5.46	7.00	10.15	1.15	4.15	f 7.15	f 9.55
			P. M.																
9.04	6.04	3.04	12.04	8.51	6.50	12.50	7.21	44.31	†Corozal	6.48	10.54	1.38	5.38	6.53	10.08	1.08	4.08	7.08	9.48
9.15	6.15	3.15	12.15	9.00	7.00	1.00	7.30	47.14	Arrive. †Panama. Leave.	6.35	10.45	1.30	5.30	6.45	10.00	1.00	4.00	7.00	9.40
P. M.	P. M.	P. M.	P. M.	A. M.	P. M.	P. M.	A. M.			A. M.	A. M.	P. M.	P. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.
29	27	25	23	21	7	5	3		†Telegraph station. f Flag station.	2	4	6	8	20	22	24	26	28	30

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning November 1:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	27
Chops	per lb	29
Cutlets	per lb	29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	4
Soup	per lb	6
Stew	per lb	10
Corned	per lb.	12, 14, 16
Chuck roast	per lb	14
Pot roast	per lb	16
Rib-roast, second cut (not under 3½ pounds)	per lb	19
Rib-roast, first cut (not under 3 pounds)	per lb	21
Sirloin roast	per lb	22
Rump roast	per lb	22
Porterhouse roast	per lb	22
Steak, Chuck	per lb	15
Round	per lb	16
Rib	per lb	21
Sirloin	per lb	22
Porterhouse	per lb	22
Rump	per lb	22
Tenderloin	per lb	27

MISCELLANEOUS.

Livers—Beef	per lb	11½
Calf	each	65
Sausage—Pork	per lb	17
Bologna	per lb	17
Frankfurter	per lb	17
Leberwurst	per lb	17
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	30
Oysters	keg	90
Eggs, fresh	dozen	34

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each	70, 82, 93, 1.04, 1.15
Ducks, fatted	each	1.30
medium weight	each	90
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50

CURED AND PICKLED MEATS.

Bacon—Breakfast, whole piece	per lb	27
Breakfast, sliced	per lb	29
Ham—Sugar-cured, sliced	per lb	§25
One-half, for boiling	per lb	§21
Westphalia	per lb	45
Hocks	per lb	‡8
Sugar cured	per lb	20
Beef, salt, family	per lb	10
Pork, salt	per lb	15
Ham, boiled	per lb	28
Ox tongues	each	1.00
Pigs' feet	per lb	8
tongues	per lb	16

DAIRY PRODUCTS.

Butter—Prints, prime quality	per lb	42
Cheese—Roquefort	per lb	45
Philadelphia Cream	each	20
Young America	per lb	22
Swiss	per lb	31
Edam	each	1.05
Camembert	per lb	28
Neufchatel	each	6
Gouda	per lb	34
Parmesan	bottle	20
French cheese in tins—Camembert, Brie, Neufchatel	1-lb tin	20
Milk, Briarcliff	bottle	**25

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	10
Lettuce	per lb	‡5
Potatoes, white,	per lb	*3
sweet	per lb	2½
Onions	per lb	3
Squash, Hubbard	per lb	5
Yams	per lb	3½
Turnips	per lb	3½
Carrots	per lb	4
Beets	per lb	5
Cauliflower	per lb	12
Cucumbers	per lb	6
Tomatoes	per lb	7
Lemons	dozen	24
Grapes	per lb	9
Limes	per 100	80
Watermelons	each	*35
Peaches	per lb	*10
Cantaloupes	each	10
Cabbage	per lb	4
Apples,	per lb	†5½
Oranges	dozen	12
Grapefruit	each	4
Plums	per lb	12
Pears	per lb	8

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

LEGAL NOTICE.

United States of America, } In the Circuit Court,
Canal Zone. } First Judicial Circuit.

A petition having been filed by the Collector of Revenues for the escheat of the estate of Richard Prince, who died intestate at Balboa, on or about the 17th of November, 1908, leaving property to the value of $18.25 U. S. currency, notice is hereby given to all heirs, creditors, or other claimants of the said estate to appear at the courthouse at Ancon on or before the 10th day of December, 1909, for the purpose of filing their claims.

F. H. SHEIBLEY,
Acting Circuit Court Clerk.

Auction Sale of Dairy Cows.

On Monday, November 15, 1909, at 10 a. m., there will be sold at public sale at the Ancon Hospital dairy, seven dairy cows, ranging in age from seven to ten years. The dairy is located near the insane asylum buildings in the rear of the hospital grounds. The terms of the sale will be cash.

CHAS. F. MASON, *Superintendent.*

Ancon, C. Z., October 19, 1909.

Bids for Excavation in Canal Prism.

Bids will be received at the office of the Purchasing Agent on the Isthmus, Isthmian Canal Commission, Culebra C. Z., up to 2 p. m., November 10, 1909, at which time they will be opened in public, for six (6) sections of excavation in the Canal prism north of Barbacoas bridge, as follows:

Section A. Consisting of approximately 33,000 cubic yards of earth.

Section B. Consisting of two (2) parcels of excavation:

1. Containing approximately 70,000 cubic yards, of which it is estimated that 70 per cent is soft rock and 30 per cent earth.
2. Consisting of approximately 1,213 cubic yards of earth.

Section C. Consisting of two (2) small parcels of excavation:

1. Containing approximately 1,529 cubic yards of earth.
2. Containing approximately 1,102 cubic yards of earth.

Section D. Consisting of approximately 9,092 cubic yards of earth.

Section E. Consisting of two (2) parcels of excavation:

1. Containing approximately 39,950 cubic yards of earth.
2. Containing approximately 2,447 cubic yards of earth.

Section F. Consisting of five (5) small parcels of excavation in the town of Bohio, containing in all 2,614 cubic yards of earth.

The location of these sections of excavation and all information and specifications concerning the same, may be obtained at the office of the Division Engineer, Empire, C. Z.

Work must be commenced before December 1, 1909, and completed before October 1, 1910.

Bids will be received for one or more sections and must be accompanied by a deposit of $50 U. S. currency, which deposit will be returned to the unsuccessful bidders. A suitable bond or a deposit equivalent to 5 per cent of the amount bid, will be required from the successful bidder, as a guaranty that the work will be satisfactorily performed, said deposit or bond to be returned on the satisfactory completion of the work.

Bidders will submit a single unit price per cubic yard for all excavation in each section, which price will include all the necessary clearing for the prosecution of the excavation.

No bids will be received from any United States Government employe. Proposals will be received in sealed envelopes, marked, "Proposals for excavation in the Canal prism north of Barbacoas bridge." The right is reserved to reject any or all bids.

R. E. WOOD,
Acting Purchasing Agent on Isthmus.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO COLON.

Allianca	P. R. R.	Thursday	Oct. 28
Thames	R.-M.	Saturday	Oct. 30
Colon	P. R. R.	Thursday	Nov. 4
Prinz Joachim	H.-A.	Saturday	Nov. 6
Advance	P. R. R.	Tuesday	Nov. 9
Atrato	R.-M.	Saturday	Nov. 13
Panama	P. R. R.	Monday	Nov. 15
Allianca	P. R. R.	Saturday	Nov. 20
Prinz Aug. Wilhelm	H.-A.	Saturday	Nov. 20
Colon	P. R. R.	Saturday	Nov. 27
Tagus	R.-M.	Saturday	Nov. 27
Advance	P. R. R.	Thursday	Dec. 2
Prinz Joachim	H.-A.	Saturday	Dec. 4
Panama	P. R. R.	Thursday	Dec. 9
Oruba	R.-M.	Saturday	Dec. 11
Allianca	P. R. R.	Tuesday	Dec. 14
Prinz Aug. Wilhelm	H.-A.	Saturday	Dec. 18
Colon	P. R. R.	Tuesday	Dec. 21
Magdalena	R.-M.	Saturday	Dec. 25
Advance	P. R. R.	Monday	Dec. 27

Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

COLON TO NEW YORK.

Allianca	P. R. R.	Monday	Nov. 8
Prinz Aug. Wilhelm	H.-A.	Tuesday	Nov. 9
Colon	P. R. R.	Tuesday	Nov. 16
Tagus	R.-M.	Wednesday	Nov. 17
Advance	P. R. R.	Sunday	Nov. 21
Prinz Joachim	H.-A.	Tuesday	Nov. 23
Panama	P. R. R.	Saturday	Nov. 27
Oruba	R.-M.	Wednesday	Dec. 1
Allianca	P. R. R.	Thursday	Dec. 2
Prinz Aug. Wilhelm	H.-A.	Tuesday	Dec. 7
Colon	P. R. R.	Thursday	Dec. 9
Advance	P. R. R.	Tuesday	Dec. 14
Magdalena	R.-M.	Wednesday	Dec. 15
Panama	P. R. R.	Tuesday	Dec. 21
Prinz Joachim	H.-A.	Tuesday	Dec. 21
Allianca	P. R. R.	Sunday	Dec. 26
Clyde	R.-M.	Wednesday	Dec. 29

A fortnightly service of the steamers Ancon and Cristobal will be maintained as nearly as possible but changes from the schedule may be found necessary. The following is the schedule:

NEW YORK TO CRISTOBAL.

Cristobal	P. R. R.	Wednesday	Nov. 3
Ancon	P. R. R.	Wednesday	Nov. 17
Cristobal	P. R. R.	Wednesday	Dec. 1
Ancon	P. R. R.	Wednesday	Dec. 15

CRISTOBAL TO NEW YORK.

Ancon	P. R. R.	Sunday	Nov. 7
Cristobal	P. R. R.	Wednesday	Nov. 17
Ancon	P. R. R.	Wednesday	Dec. 1
Cristobal	P. R. R.	Wednesday	Dec. 15
Ancon	P. R. R.	Wednesday	Dec. 29

NEW ORLEANS TO COLON.

Turrialba	U.F.C.	Saturday	Oct. 30
Abangarez	U.F.C.	Saturday	Nov. 6
Atenas	U.F.C.	Saturday	Nov. 13
Turrialba	U.F.C.	Saturday	Nov. 20
Abangarez	U.F.C.	Saturday	Nov. 27

COLON TO NEW ORLEANS.

Turrialba	U.F.C.	Tuesday	Nov. 9
Abangarez	U.F.C.	Tuesday	Nov. 16
Atenas	U.F.C.	Tuesday	Nov. 23
Turrialba	U.F.C.	Tuesday	Nov. 30
Abangarez	U.F.C.	Tuesday	Dec. 7

COLON TO BARBADOS, CALLING AT TRINIDAD.

Thames	R.-M.	Tuesday	Nov. 9

The Panama railroad steamships sail at 3 p. m. from dock at Cristobal direct to New York.

A ship of the United Fruit Company's line sails from the dock at Colon, at 3 p. m., Tuesday of each week.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Cuban* for New Orleans, via Kingston, Ja., on or about November 13.

The steamers *David* of the National Navigation Company, and the *Taboga* of the Pacific Steam Navigation Company, leave Panama, for David, province of Chiriqui, and intermediate points, the first and third weeks of each month.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, NOVEMBER 10, 1909. No. 11.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

NOTES OF PROGRESS.

Record Month in Culebra Cut.

The excavation in Culebra Cut in October was greater than that for any previous rainy season month, and second only to that of the highest monthly record, which was made in March, 1909, when 1,511,397 cubic yards were excavated. A comparison of the excavation and rainfall in October of 1909, 1908, and 1907 follows:

	1907.	1908.	1909.
	Cu. Yds	*Cu. Yds.*	*Cu. Yds.*
Excavation	834,499	1,160,101	1,302,901
Rainfall:	*Inches.*	*Inches.*	*Inches.*
Gamboa	13.02	8.90	16.98
Empire	15.44	8.87	21.14
Rio Grande	15.09	8.59	18.52

The halfway point in the excavation in Culebra Cut was passed in October, and an article giving details of the work was published in THE CANAL RECORD of October 27. The total amount excavated at the close of work on October 31 was 39,309,197 cubic yards, and there remained to be excavated 38,733,098 cubic yards.

Canal Work in October.

The grand total of Canal excavation in October was 2,827,798 cubic yards, which is 8,587 cubic yards less than the total for September, and 1,052,539 cubic yards less than the highest record, that of March, 1909. Of the 2,827,798 cubic yards, 2,775,427 were charged to "work" excavation and 52,371 to "plant." The dry excavation amounted to 1,770,996 cubic yards, and was principally by steam shovels. The dredges removed 1,056,802 cubic yards, in addition to the amount pumped into Gatun Dam by the three suction dredges on that work. The progress on the locks at Gatun and Pedro Miguel is referred to elsewhere in this issue of THE CANAL RECORD. The total amount of concrete laid in October, was 41,650 cubic yards.

In the Atlantic Division the total excavation was 452,142 cubic yards, 88,072 cubic yards less than in September. Of this total 137,364 cubic yards were dry excavation and the remainder was removed by dredges.

The total excavation in the Central Division was 1,524,310 cubic yards, which was 52,514 cubic yards more than in September. The features of the work in this division and in the Culebra Cut section in October are referred to elsewhere in this issue of THE CANAL RECORD.

In the Pacific Division the excavation amounted to 851,346 cubic yards, of which 742,024 cubic yards were taken out by the dredges in the Pacific entrance.

A detailed statement of the excavation and of the lock and dam work follows:

ATLANTIC DIVISION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, Dam and Spillway	57,321	7,400	64,721
Mindi	72,643	....	72,643
Total	129,964	7,400	137,364
Wet excavation—			
Atlantic entrance	314,778	....	314,778
Locks, Dam and Spillway	....	....	....
Permanent Plants	....	....	....
Total	314,778	....	314,778
Total wet and dry excavation	444,742	7,400	452,142

CENTRAL DIVISION.

All dry excavation—			
Culebra Cut	1,302,901	....	1,302,901
Chagres section	221,409	....	221,409
Total	1,524,310	....	1,524,310

PACIFIC DIVISION.

Dry excavation—			
Locks, Dams and Spillways	64,351	44,971	109,322
Diversions	....	....	....
Total	64,351	44,971	109,322
Wet excavation—			
Pacific entrance	720,920	....	720,920
Miraflores Locks	21,104	....	21,104
Diversions	....	....	....
Total	742,024	....	742,024
Total wet and dry excavation	806,375	44,971	851,346

TOTAL CANAL EXCAVATION.

Dry excavation	1,718,625	52,371	1,770,996
Wet excavation	1,056,802	....	1,056,802
Total	2,775,427	52,371	2,827,798

Mean rainfall along Canal (eleven stations) 17.16 inches. Twenty-six working days.

DAM AND LOCK CONSTRUCTION.

MATERIAL.	Atlantic.	Pacific.	Total.
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Fill placed in dams and spillways	521,294	32,300	553,594
Concrete laid in dams and spillways	3,516	18	3,534
Concrete laid in locks	29,378	8,738	38,116

Central Division Excavation.

The excavation from the Canal prism in the territory of the Central Division during the month of October was 1,524,310 cubic yards, which is the next to the highest ever made in a rainy season month. The highest record for a rainy season month was made in October, 1908, when 1,551,409 cubic yards were excavated. October, 1909, breaks all previous records for rainfall, the total being 21.13 inches, or almost two and one-half times that of October, 1908, when the total was 8.88 inches. The excavation on various parts of the work in that division during October was as follows:

	Cubic Yards.
Bohio	29,926
Buena Vista	37,473
Caimito	52,978
Mamei	22,520
Tabernilla	142,897
Bas Obispo	304,808
Empire	550,384
Culebra	526,221
Total	1,524,310

The total amount of material excavated in the Central Division at the close of work on October 31 was 46,819,110 cubic yards, and the amount remaining to be excavated was 42,975,383 cubic yards.

The Atlantic Entrance.

In the Atlantic entrance to the Canal, extending from deep water in Limon Bay to Gatun Locks, a distance of seven miles, there are four distinct classes of excavation—dredging under water, cutting a channel into the land by means of dredges, steam shovel excavation, and excavation by suction dredges. The channel is to be 500 feet wide and 41 feet deep at mean tide.

From deep water in the bay to the shore line the material is largely earth and loose rock, and it is handled readily by ladder dredges, a dipper dredge and the sea-going suction dredge *Caribbean*. Some hard rock below a depth of 30 feet is drilled and blasted. The channel has been dug to a depth of 40 feet for a distance of about 2¾ miles from the 41-foot contour in the bay, to a depth of 30 feet for 3½ miles from the 41-foot contour, and of 20 feet for a distance of 5 miles. The amount of silt carried into the channel by the various currents has been determined by surveys to be as much as 25 per cent, and this requires a large amount of maintenance work, which is done chiefly by the dredge *Caribbean*.

To lessen the amount of maintenance work and to protect shipping in the harbor from the violent "northers" that prevail once a year, it has been recommended to build breakwaters across the front of the bay leaving an opening 2,000 feet wide for ships to enter. The preliminary surveys for this work have been completed, suitable rock for the substructure has been located near the site, and plans are in course of preparation. Preliminary plans contemplate a west jetty with the outer end in 48 feet of water and trending toward Toro Point, and an east jetty from 44 feet of water, trending toward Manzanilla Point.

From the shore line to the hills at Mindi, a distance of one mile, the channel is through a salt marsh in which a layer of earth overlies hard rock. This material is blasted in the dry with dynamite, and then is taken out by the ladder and dipper dredges which work their way into the land, making a channel 500 feet wide and 41 feet deep.

The dredging fleet at the Atlantic entrance consists of the sea-going suction dredge *Caribbean*, three rebuilt French ladder dredges, and one modern dipper dredge. Dredging in the Canal prism was begun in June, 1907, and up to November, 1909, there had been taken out 12,392,825 cubic yards. There still remain to be excavated between deep water in the bay and the hills at Mindi 7,819,637 cubic yards. The work is advancing at the rate of over 400,000 cubic yards a month.

An article on the work at Mindi was published in THE CANAL RECORD of October 27. At that point four steam shovels are working below sea-level in a pit kept dry by pumping. One of these shovels is excavating at 41 feet below mean tide; in other words, on the bottom of the Canal.

No work has yet been done on the section between Mindi and Gatun Locks. It consists of a channel 500 feet wide up to a point 4,000 feet north of Gatun Locks, and 1,000 feet wide from that point to the locks. Suction dredges are to be used on this work, and about 4,500,000 cubic yards will be excavated.

Visit of the Congressmen.

The Hon. James A. Tawney, chairman of the Committee on Appropriations of the House of Representatives, accompanied by a majority of the members of that Committee, sailed for the Isthmus from New York on the *Cristobal* on November 3, and is due to arrive at Cristobal on November 10. The members of the Committee include Representatives Henry H. Bingham of Pennsylvania, Washington Gardner of Michigan, Walter I. Smith of Iowa, J. Warren Keifer and Edward L. Taylor, Jr. of Ohio, George R. Malby and John J. Fitzgerald of New York, Swagar Sherley of Kentucky, E. J. Bowers of Mississippi, Albert S. Burleson of Texas. There are also in the party Senators Flint of California, Brandegee of Connecticut, and Crawford of South Dakota, and Representatives Wm. B. McKinley of Illinois, R. W. Parker of New Jersey, W. H. Stafford of Wisconsin, A. L. Allen of Maine, J. N. Langham and A. J. Barchfeld of Pennsylvania.

Personal.

Lieut.-Col. William L. Sibert and Mr. Henry Goldmark are passengers on the *Colon*, which is due to arrive at Cristobal on November 10.

Mr. H. J. Slifer, and Miss Margaret Slifer, returned to the Isthmus on the *Allianca*, which arrived at Cristobal on November 3. Mr. Slifer has resigned as General Manager of the Panama railroad, and will return to the States on November 16, to take up work on a western railroad with headquarters at Chicago.

A meeting of Catholic men and women is called by Rev. Henry C. Pouget for 7.30 o'clock, Friday evening, November 12, at the Commission hotel at Balboa. Arrangements will be made at that time for the celebration of two masses at Balboa on the following Sunday.

THE PACIFIC ENTRANCE.

Operations Between Miraflores Locks and Deep Water in Panama Bay.

Five miles of the Canal at the Pacific entrance are open to navigation. This includes the channel from the point in the Bay of Panama where the water is 45 feet deep at mean tide to the wharves at Balboa. Steamships plying between San Francisco and Panama, and the west coast ports of South America and Panama use this part of the Canal daily. The new channel from Balboa wharf to the 45-foot line was opened in February of the present year by the Pacific Mail steamship *Newport*, and ships drawing not over 30 feet of water can use this channel at high tide at the present time. The work in this section is not yet finished, although the channel is in use. From the wharf to deep water or the 45-foot line, the channel is now its full width and 30 feet deep at mean tide where it is shallowest, and through the greater part of its length it has a depth of 50 feet below mean tide.

A channel wide and deep enough for the shipping that plies between Balboa and other ports existed when the Americans began their work on the Isthmus. It was known as the Pacific entrance to the French canal, and ran along the line of the present Canal from the wharves to a point about 1,200 feet south of the Panama railroad wharf, where it curved to the southeast, and reached deep water between the mainland and the island of Perico. This channel was maintained by the Panama Railroad Company up to the time the Americans began dredging in June, 1905. One of the ladder dredges left by the French was used in this maintenance work. It is now called the *Mole*, and is still, after 25 years of service, one of the best ladder dredges of the Pacific fleet.

Between the wharf at Balboa and deep water the American Canal utilizes some of the old channel, but instead of turning to the southeast it continues in a southerly direction and passes to the west of the islands (instead of the east) in the bay. All of the dredging in this section has been done by the ladder dredges *Mole*, *Gopher*, and *Badger*, and the sea-going suction dredge *Culebra*. The *Mole* began her cut in June, 1907; the *Gopher* and *Badger* entered into this cut as they were rebuilt, and the *Culebra* began work in January, 1908. The ladder dredges made a preliminary cut through the new Canal prism, and after sufficient flotation was secured for the *Culebra* this dredge began to sweep from the wharf to deep sea. A strong current runs between the mainland and the islands at the Pacific entrance, and the channel in a westerly direction. This makes a tendency to carry silt from the bar over the whole length of the channel from the wharf to deep sea. In order to cut off this current and thus avoid the silting up of the channel, a breakwater is being constructed from the mainland at Balboa to Naos Island, a distance of about three miles, practically parallel to the channel and about one-half mile distant. This breakwater is built of miscellaneous spoil from Culebra Cut, and serves as a dump of inexhaustible capacity.

From deep water to Miraflores Locks the completed channel will be 500 feet wide and 45 feet deep at mean tide, or 35 feet deep at spring low water. In the portion of the Canal between Balboa wharf and Miraflores Locks all of the excavation made by the French for their canal is included in the prism of the present Canal. In the section from the wharf to deep water only a small proportion of the material to be excavated was rock. Between Balboa and Miraflores, however, the most difficult part of the work is the rock excavation, of which there is probably a little less than 2,000,000 cubic yards. Three ladder dredges, namely, *Mole*, *Badger* and *Marmot*, and the dipper dredge *Cardenas* are taking the top layer of earth from part of this rock. On the shipways at Balboa, and soon to be put in service, is a drill barge that will be used to drill holes in the rock that lies under water. These holes will be charged with dynamite and the rock shattered into pieces that the dipper dredge can handle. The subaqueous rock breaker *Vulcan* has been at work for several weeks shattering rock, but results of its operations cannot yet be given. There is now under consideration the purchase of a dipper dredge that will handle ten cubic yards of material at one operation.

The Pacific Division dredging fleet now includes one sea-going suction dredge, the *Culebra*, capable of excavating to a depth of 50 feet, with two 20-inch intakes; one 20-inch pipeline dredge, the *Sandpiper*, now excavating at Miraflores Locks and pumping into the dam; four rebuilt ladder dredges, two of marine type and two of the Belgian type, namely, *Mole*, *Gopher*, *Badger* and *Marmot*, all with 17 cubic foot buckets, and one dipper dredge, *Cardenas*, with a dipper of five cubic yards capacity. These dredges are excavating in the neighborhood of 700,000 cubic yards of material per month. One of the ladder dredges, the *Gopher*, is now excavating sand at Chamé for general concrete work on the Isthmus, and also for locomotive use in sandboxes.

Under the present plans the rock dredging at the Pacific entrance will stop about two miles above Balboa wharf. Excavation in the section between this point and the south end of Miraflores Locks will be done by three methods: (1) The ladder dredge *Marmot* will make a preliminary cut on the west side of the Canal as far as possible between this time and the time that the hydraulic plant is completed; (2) the earth that overlies the rock will be washed off by streams of water, under pressure, and then pumped out of the prism by three centrifugal pumps; (3) after the rock is thus bared it will be shattered by dynamite and taken out by steam shovels. To make this method of excavation practicable, the Rio Grande will be diverted both above and below the section to be excavated.

Murder at Balboa.

Mrs. Julia Tull, wife of M. E. Tull, a master in the Pacific dredging fleet, was murdered at her home in Balboa on the night of November 8 or the morning of the 9th. Wounds about her head and neck indicate that she was stabbed or hit with a sharp instrument of some kind. The murderer is at large, and the trail is hard to follow as it was fully ten hours after the escape of the murderer that the dogs were put on the scent.

A new license has been issued to the steamer *Advance* of the Panama Railroad Steamship Line, which went into drydock for classification repairs late in October. She is scheduled to sail from New York on November 9.

PEDRO MIGUEL-MIRAFLORES.

Status of the Work on the Locks—Concrete Laying and Excavation.

Excavation for the twin locks at Pedro Miguel is almost finished, and only about 250,000 cubic yards of material remain to be taken out, most of it in the prism south of the lock site. The laying of concrete at these locks was begun on September 1, and the record up to the close of work on November 6, was as follows:

	Cubic Yards.
September	2,369½
October	8,396¼
November 1 to 6	2,236½
Total	13,002¼

The daily record for the week ending November 6, was as follows:

	Cubic Yards.
October 31	86½
November 1	429½
November 2	338
November 3 (holiday)	.....
November 4	446
November 5	477½
November 6	545½
Total	2,323

On account of delays by the contractors in the States in delivering the units of the permanent mixing and handling plant, the making and laying of concrete at Pedro Miguel are done at present with a temporary plant of five small units. The largest of these units is a two-yard cube mixer, of the same capacity as each of the eight mixers in the central mixing plant at Gatun. It is installed in the west lock chamber and is served with sand, rock, and cement from a railroad track running along the bank of the lock site above the mixer. The concrete is dumped into a two-yard bucket and lifted by a crane to a platform above a hopper, into which it is dumped. This hopper has two doors, and the concrete is delivered from one or both of these doors into Decauville cars, which convey it across the lock chamber to the place where it is to be laid in the floor.

While the locks at Pedro Miguel are of the same type as those at Gatun the method of constructing the floors is different, because the whole lock site at Pedro Miguel is in hard rock. The rock is trenched for the lateral culverts by channeling machines, and the concrete is dumped around the forms into these trenches. About three feet of concrete covers the culverts and makes them part of the lock floor. The work now in progress is the construction of these culverts. Seven have been completed in the west lock, and there remain to be built fourteen more. The culverts are on 36-foot centers, leaving about 25 feet of floor to be laid between them. For this part of the floor the rock is cleaned down to hard, homogeneous matter, and the concrete is dumped on it in sufficient quantity to bring it to grade, the depth of the concrete on the rock foundation depending upon the depth of the loose overlying material, but running in general from one to three feet. By the end of the month it is expected that one-half of the floor and one-half of the culverts in the west lock will be completed.

The other four units of the temporary plant are located along the south guide wall, a concrete wall 1,200 feet long that will extend southward from between the twin locks. Three of these mixers are of one-half cubic yard capacity, and the fourth is of one-quarter cubic yard capacity. Materials for the concrete are delivered from convenient storage piles by wheelbarrow into these mixers, and the concrete is handled by derrick to distributing hoppers, and by Decauville cars to the place where it is to be laid. All the concrete made by these mixers is placed in the guide wall.

Work is in progress in the east lock chamber on the frame for another unit in the temporary plant, a second two-yard mixer, which will be in service before the end of the month. Working at the rate of nine hours a day this new mixer will increase the capacity of the temporary plant to about 700 cubic yards a day.

In the west lock chamber the false work to be used in erecting one of the chamber cranes of the permanent mixing and handling plant is in process of construction. In the south or upper forebay of the locks the tracks for the cantilever mixing cranes have been laid. There will be two of these cranes, which will take materials from storage piles parallel with the tracks on which the cranes will run and deliver them into mixers situated on the towers; and there will be four cantilever cranes in the lock site, placing the concrete. Sand for the concrete is obtained from Chamé, and rock from Porto Bello and Rio Grande crushers. A slide at Ancon quarry has retarded the work at that place so that the crushers will not be delivering stone before the first of January.

The building of locks at Pedro Miguel involves the construction of two dams north of the locks, to keep the water from the 85-foot level from flowing through depressions between the hills on either side of the Canal, and wasting into the channel of the Rio Grande. The west dam is being made with miscellaneous excavation from the lock site and a core of impervious clay, and will be connected to the west wall of the locks with a concrete core wall. A fill of nearly a million cubic yards will be required for this dam. An east dam will connect the east wall of the locks with the east hill. It will be made of concrete, and will be 550 feet long.

Concrete laying at Miraflores has not been begun, and probably will not be until February, when temporary mixers will be installed to supply concrete for the construction of the lateral culverts. In the chamber of the upper locks, the excavation is almost completed, the only digging still to be done being that of the incline up which the spoil trains run, and some work along the walls, in all about 50,000 cubic yards. Four channeling machines are at work on the trenches for the lateral culverts, which in these locks, as at Pedro Miguel, will be in the hard rock of the foundation. The floor will require only a thin layer of concrete.

In the chamber of the lower locks at Miraflores the 20-inch suction dredge *Sandpiper* is excavating hard clay and gravel, and depositing them in the dam across the channel of the Cocoli River. The purpose of this dam is to maintain the lake between Pedro Miguel and Miraflores, and it will be in the nature of back filling for the west wall of the locks. Its construction advances with the excavation, because the material taken out of the lock site is dumped on the dam.

From the north end of the east wall of the locks a concrete dam will extend to an adjacent hill, and in this dam will be the spillway for Miraflores Lake. Immediately south of the site of the spillway a power house of concrete has been erected, and one of three 1500 kilowatt units of a steam power plant is in operation. This plant will furnish electric power for the concrete laying in the locks. After the Canal is completed hydraulic turbines will be installed and the entire plant will be held in reserve, all locks being operated from the Gatun plant.

On November 8 a pile driver was set at work at the southeast end of the Miraflores lock site driving a trestle which will extend along the bank above the lock site, and will be used for the storage of sand and rock. A similar trestle will be built along the west bank of the locks. From the storage piles cantilever cranes will take materials for concrete, which will be mixed and delivered to cranes operating in the lock chambers. About 7,000 feet of these trestles are to be built at Miraflores Locks.

French and American Excavation.

THE CANAL RECORD:

Would you kindly publish the following figures in the next issue of THE CANAL RECORD:

When the United States took over the work, there had been something like 81,500,000 cubic yards taken out; what was then estimated as the amount still to be excavated? Of that estimate how much has already been removed, and how many cubic yards now remain to be taken out to complete the excavation of the Canal?

INQUIRER.

Paraiso, October 31, 1909.

[The French estimated that they had excavated about two-fifths of the total amount necessary for the canal they proposed to construct. When the United States took possession in May, 1904, the type of the canal it proposed to construct had not been decided. It was not decided till 1906. On June 29 of that year the President approved an Act of Congress directing the construction of an 85-foot level lock canal. The total excavation estimated for that canal by its authors at the time was 103,795,671 cubic yards, in addition to the French excavation. The plan was subsequently changed in many important respects, by order of the President, the net result being to increase the total excavation required to 174,666,595 cubic yards, making it nearly 71,000,000 cubic yards larger than the original estimate. If the plan of the Canal originally adopted had been adhered to, the total excavation would now be within about 16,000,000 cubic yards of completion. Under the enlarged plan, it is a little more than half completed.]

Pacific Sand Service.

About 700 cubic yards of sand from Chamé are delivered daily at Balboa and are loaded on cars for delivery at various points along the line of the work. When the sand handling plant now in process of erection at Balboa is completed it is expected that enough sand can be handled at this one plant to supply all the demands of the Canal work, in case it should be necessary or economical to use Chamé sand exclusively.

LOST—A valuable pearl handle pocket knife, in or about the Cristobal Y. M. C. A. building. Finder kindly return to the secretary of the Gorgona Y. M. C. A.

RECORD OF EXCAVATION SINCE AMERICAN OCCUPATION.

MONTHLY TOTALS BY CUBIC YARDS, PLACE MEASUREMENT.

ATLANTIC DIVISION.

COLON—STEAM SHOVELS.

Months.	1907*	1908*	1909	
	From Canal Prism	From Canal Prism	From Canal Prism	Outside Canal Prism
January	....	62,835	45,664	....
February	....	65,632	46,046	....
March	....	81,850	70,713	....
April	....	67,436	74,368	....
May	....	54,333	71,407	....
June	....	32,022	80,101	....
July	731	23,515	82,378	....
August	15,257	16,309	66,249	....
September	28,837	32,112	61,437	....
October	41,078	45,475	72,643	....
November	40,003	47,183	....	....
December	46,945	62,253	....	....
Totals	172,851	590,955	671,006	....

Total to November 1, 1909—1,434,812 cubic yards.
*No work done outside of Canal Prism

COLON—DREDGES.

Months.	1907		1908		1909	
	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	....	111,100	444,403	46,298	521,050	....
February	....	110,002	401,887	25,835	444,910	....
March	....	84,145	515,223	31,663	461,208	....
April	....	69,889	496,366	....	470,635	....
May	....	133,847	564,386	....	315,370	....
June	17,000	107,118	572,749	....	182,575	....
July	104,322	5,600	625,497	....	348,451	....
August	189,170	5,127	638,217	....	422,846	....
September	403,842	....	624,776	....	410,574	....
October	409,632	5,488	505,260	....	314,778	....
November	417,297	5,500	570,832	....	....	....
December	428,053	14,782	679,604	....	....	....
Totals	1,969,316	652,598	6,639,200	103,796	3,892,397	....

Total to November 1, 1909—14,684,772 cubic yards.

In this total are included 399,820 cubic yards excavated in 1905, and 1,027,645 cubic yards in 1906. There were also 38,425 cubic yards removed by dredges at the Gatun dam site in 1907.

GATUN LOCKS, DAM AND SPILLWAY—STEAM SHOVELS.

Months.	1907		1908		1909	
	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	47,539	....	193,567	98,588	69,001	33,689
February	70,177	....	176,291	106,506	61,819	33,212
March	100,151	....	202,763	171,835	59,598	30,453
April	103,459	....	196,109	177,347	58,088	11,921
May	70,528	....	138,815	127,932	48,198	4,588
June	71,181	3,832	116,998	127,953	28,943	7,613
July	59,537	14,628	136,816	76,543	36,098	2,960
August	78,357	26,866	130,263	57,999	40,346	....
September	87,423	36,315	104,780	41,210	42,047	7,898
October	136,777	40,236	109,667	44,397	41,175	16,146
November	121,635	40.987	83,527	34,751	....	....
December	160,795	69,756	65,950	53,954	....	....
Totals	1,107,559	232,620	1,655,546	1,119,015	485,313	148,480

Total to November 1, 1909—4,775,161 cubic yards.

In this total are included 26,628 cubic yards excavated from the Canal prism October to December, 1906. In addition there were 488,533 cubic yards removed by dredges from Gatun locks in December, 1908, January, February, March, April, May, June and July, 1909.

CENTRAL DIVISION.

CULEBRA SECTION—STEAM SHOVELS.

Months.	1904	1905	1906	1907	1908	1909
January	....	70,650	120,990	566,750	1,227,022	1,150,249
February	....	75,200	168,410	639,112	1,248,265	1,215,648
March	....	132,840	239,178	815,270	1,290,885	1,434,597
April	....	126,749	213,177	879,527	1,242,574	1,274,356
May	27,556	75,935	196,209	690,365	960,840	1,126,963
June	32,551	76,905	212,623	624,586	1,134,032	1,242,134
July	31,599	78,570	159,789	770,570	1,121.325	1,200,828
August	35,056	49,210	244,823	786,866	1,173,800	1,173,370
September	25,220	44,085	291,452	753,468	1,122,860	1,235,978
October	19,695	52,940	327,009	834,499	1,160,101	1,302,901
November	28,860	60,540	221,642	790,632	1,022,576	....
December	42,935	70,630	307,689	1,025,485	1,210,046	....
Totals	243,472	914,254	2,702,991	9,177,130	13,914,326	12,357,024

Total to November 1, 1909—39,309,197 cubic yards.

CHAGRES SECTION—STEAM SHOVELS.

Months.	1907*	1908		1909	
	From Canal Prism	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	....	169,447	....	389,399	....
February	....	200,145	....	428,988	....
March	....	324,233	....	619,491	....
April	....	329,483	....	508,410	....
May	....	235,902	....	386,170	....
June	....	322,145	....	275,900	....
July	....	345,757	....	233,897	....
August	2,900	366,810	....	231,543	....
September	21,546	346,948	....	235,818	....
October	25,627	424,911	....	221,409	....
November	44,044	336,390	....	....	....
December	98,652	383,948	....	....	....
Total	192,769	3,786,119	....	3,531,025	....

Total to November 1, 1909—7,509,913 cubic yards.
*No work done outside Canal prism.

CANAL EXCAVATION TO DATE.

		Cu. Yds.
By French Companies		81,548,000
By Americans—		
Steam shovels	55,514,498	
Dredges	34,432,987	
Total		89,947,485
May 4 to December 31, 1904	243,472	
January 1 to December 31, 1905	1,799,227	
January 1 to December 31, 1906	4,948,497	
January 1 to December 31, 1907	15,765,290	
January 1 to December 31, 1908	37,070,887	
January 1 to October 31, 1909	30,120,112	

EXCAVATION IN TERRITORY OF PRESENT DIVISIONS

May 4, 1904, to October 31, 1909.

DIVISIONS.	Amount excavated. Cubic yards—Total.		Estimated amount yet to be excavated. Cubic yards—Total.	
Atlantic—				
Dry excavation	6,209,973	21,421,703	3,351,938	21,665,608
Dredges	15,211,730		18,303,670	
Central, all dry excavation—				
Culebra Cut	39,309,197	46,819,110	38,733,098	42,975,383
All other points	7,509,913		4,242,285	
Pacific—				
Dry excavation	2,485,415	21,706,672	3,445,165	20,088,119
Dredges	19,221,257		16,642,954	
Grand totals		89,947,485		84,719,110

PACIFIC DIVISION.

PEDRO MIGUEL LOCKS—STEAM SHOVELS.

Months.	1908		1909	
	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	....	....	83,726	....
February	....	....	57,138	1,104
March	....	....	93,261	2,363
April	....	....	101,365	....
May	....	....	57,523	....
June	6,832	6,396	70,971	....
July	18,964	3,684	77,503	....
August	21,203	1,014	58,025	....
September	28,750	83	48,825	....
October	47,688	1,187	39,002	....
November	55,401	....	....	....
December	65,578	....	....	....
Totals	244,416	12,364	687,339	3,467

Total to November 1, 1909—947,586 cubic yards.

MIRAFLORES LOCKS, DAMS AND SPILLWAY—STEAM SHOVELS

Months.	1908		1909	
	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	7,203	....	54,383	6,819
February	38,661	385	44,294	9,395
March	67,963	5,231	46,616	4,801
April	92,261	6,682	38,275	21,785
May	54,606	18,417	30,723	16,865
June	68,691	....	39,942	15,711
July	87,675	16,694	43,736	7,263
August	91,065	3,183	35,338	108
September	88,605	2,318	31,363	440
October	71,201	3,499	25,118	231
November	47,109	5,821	....	....
December	65,416	4,234	....	....
Totals	780,456	66,464	389.788	83,418

Total to November 1, 1909—1,320,126 cubic yards.

There were also 78,233 cubic yards removed by steam shovels at Balboa locks and dams in 1907; 139,298 cubic yards at Cardenas Hill March to December, 1908, and 300,810 cubic yards by dredges at Miraflores Locks in January, February, March, April, May, June, July, August, September and October, 1909.

BALBOA—DREDGES

Months.	1905	1906	1907		1908	1909
	Outside Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism	From Canal Prism	From Canal Prism
January	....	95,940	....	94,710	460,250	469,529
February	....	95,940	....	93,480	663,519	671,477
March	....	116,820	....	92,319	783,281	865,696
April	....	110,700	....	104,855	676,539	731,767
May	....	112,340	....	122,157	530,466	720,753
June	50,676	62,697	64,352	69,223	656,621	844.685
July	41,533	98,400	108,338	....	696,170	733,181
August	54,530	111,930	168,284	....	737,774	623,263
September	114,308	105,780	144,625	9,350	750,080	662,976
October	81,836	97,170	357,122	....	762,276	720,920
November	71,176	92,988	365,423	....	609,089	....
December	71,094	90,528	349,551	....	729,960	....
Totals	485,153	1,191,233	1,557,695	586,094	8,056,025	7,044,247

Total to November 1, 1909—18,920,447 cubic yards.

There were also 172 cubic yards removed by steam shovels outside of the prism during October, 1908.

THE WORK AT GATUN.

Concrete Laying in the Locks—Progress on the Dam and Spillway.

In the month of October, 29,378 cubic yards of concrete were laid in the locks at Gatun. This is the largest amount of concrete ever supplied in one month from one mixing plant situated in one building and serving one complete piece of work. It represents an average of 948 cubic yards a day. As adjustments are made in the handling and mixing plants and the operating force increases in efficiency, the daily average of concrete laid also increases. For the first week in October, from the 2d to the 9th, the daily average was 859 cubic yards; from the 10th to the 16th, 956 cubic yards; from the 17th to the 23d, 1,044 cubic yards; from the 24th to the 30th, 1,141 cubic yards. In the week ending November 6, including October 31, the average for the seven days was 1,152 cubic yards (making no allowance for November 3, when no concrete was laid) and the average per working day was 1,344 cubic yards.

The record up to the close of work on November 6, with the total amount of concrete laid since the beginning of the work on August 24, was as follows:

	Cubic Yards.
August (seven days)	1,298
September (26 days)	11,934
October (31 days)	29,378
November 1 to 6	6,692
Total	49,302

All previous records both for a day's work and for a week's work were broken in the week ending November 6, when the daily amounts laid were as follows:

	Cubic Yards.
October 31	1,374
November 1	1,408
November 2	1,468
November 3 (holiday)	.....
November 4	1,408
November 5	1,012
November 6	1,396
Total	8,066

The concrete laying at present is confined to the floor of the south forebay and the south half of the south or upper locks. The floor of the forebay is made 20 feet thick and is laid on the rock bottom without any anchorages, while the floor of the south half of the upper locks is 13 feet thick and is anchored to the underlying rock with steel rails 6 feet apart, embedded from 10 to 20 feet in the rock. A report in THE CANAL RECORD of July 14, 1909, gives details of the floor construction, and an article published in the issue of September 1, gives details of the plans for the locks and of the construction plant.

Enough of the floor has been completed in the south locks to permit the erection of the face forms for the walls. These forms will be built up of pieces of sheet steel and will be 78 feet high and 36 feet wide. They will be carried on steel towers, and will be aligned and held in place by jacks fixed to the towers and bearing on the forms. From the foundation to a point 24⅓ feet above the level of the floor, the side walls will be 50 feet thick, and they will be built by dumping concrete between the face forms and the rock bank of the lock site. At the level of 24⅓ feet above the floor, the side walls will narrow, by a series of steps, until they are 8 feet wide at the top. For this part the concrete will be placed between the face forms and steel girders used as forms for the back of the walls. The assembling of the steel parts for the face forms has been begun.

Two of the uptakes from the lateral to the east side wall tunnel have been laid, and the form has been taken out of one. Each of the floor monoliths in the south lock contains a section of a lateral culvert, and a score or more of the wells from the lateral culverts into the lock chamber have been formed. In fact the work has reached the point where only a section of a side wall needs to be built in order to give a good idea on the ground of the plan of construction. A conduit for power and light wires, water pipes, and other services is being constructed in the floor of the forebay, by laying some three-meter cast iron pipe across the lock site. This pipe was brought to the Isthmus by the French, and is said to have been intended for use in the locks proposed for the lake level canal, on which work was in progress when the Americans assumed control.

Excavation in the lock site is advancing with sufficient rapidity to prevent interference with the concrete laying. It is done by steam shovels and locomotive cranes with self-digging dredge buckets. Up to November 1st, 3,679,588 cubic yards had been excavated, and about 1,500,000 cubic yards remained to be taken out. Channeling machines are cutting trenches in the rock bottom of the lock site north of the line of the intermediate gates of the south locks, in which the lateral culverts for this part of the locks will be laid.

The handling plant is working into better condition. In one day of 12 hours last week three of the lock cableways placed nearly 1,500 cubic yards of concrete. Repairs on the fourth cableway are making satisfactory progress. Only four of the eight mixers were in use on that day, and they were not worked to their capacity.

The difficulty of supplying crushed rock for the mixers in sufficient quantities will be overcome in two ways. The unloading cableways will be worked at night in order to keep a supply of rock over the charging bins, and to this end fourteen searchlights are now on order in the States. A searchlight will be used for each cableway to throw a light along the main cable. Enough lights have been ordered for the use of the cableways over the lock site if it should be found desirable to lay concrete at night. An auxiliary rock unloading plant is under construction on the unloading bay. This plant will be in two sections, each consisting of a wharf at which a barge can lie, two derricks equipped with self-digging buckets, and a storage bin. One of the bins will deliver rock direct into the automatic cars that will carry the materials to the mixers, and the other will deliver into cars that will haul the rock to the auxiliary mixing plant in the south approach to the locks. Each of these unloading units will have a capacity of 50 cubic yards of rock an hour. Although it is working at a rate over that for which it was designed, the crushing plant at Porto Bello has proved equal to the demands made on it, and in addition is supplying 100 cubic yards of rock a day for the work at Pedro Miguel.

An average of 1,500 cubic yards of sand each week is being delivered by water at Gatun from Nombre de Dios, and sand from Chamé is being delivered by rail at the rate of 400 cubic yards a day.

In the cement shed five of the ten 2-ton unloading cranes have been put in working condition by the chief engineer of the contractors, the Cleveland Crane and Engineering Company. On a test run on Friday morning, November 5th, 1,900 barrels of cement were unloaded by one crane, and the capacity lift of ten barrels, weighing 400 pounds each, was made without difficulty. Work is in progress on the other five cranes.

The Dam and Spillway.

Dumping of miscellaneous spoil on the north and south toes of the Dam, and the hydraulic fill between the toes of the east half of the Dam continue. The material is hauled from the lock site, from the excavation at Mindi, Bohio, and Buena Vista, and Culebra Cut. It is placed along the south toe on both sides of the Chagres, and along the north toe on the east side of the river. About 3,000,000 cubic yards of rock and earth have been dumped. Three suction dredges are pumping sandy clay between the toes, one on the south side and two on the north. The surface of the lake thus formed is about 35 feet above sea level, which is approximately the height of the fill in this half of the Dam. The ultimate height of the fill will be 115 feet above sea level, and the width will constantly decrease from the 1,200-foot base to 200 feet at the crest. The total amount placed in the hydraulic fill up to November 1, was about 1,700,000 cubic yards, and the estimated amount yet to be pumped in is 16,700,000 cubic yards.

In the spillway the concrete floor has been completed on both sides of the site of the concrete dam, and the work on the walls north of the site of the concrete dam is nearing completion. South of the site of this dam the face walls are under construction. About one-fourth of the concrete work in the spillway has been completed. Plans for the concrete dam have been approved. An article descriptive of this feature of the work was published in THE CANAL RECORD of September 8, 1909.

Sand From Nombre de Dios.

At the Nombre de Dios sand pits in October 6,552 cubic yards of sand were excavated, washed, and loaded upon barges for delivery at the Gatun locks and spillway concrete plants. Five hundred feet of trestle were completed making it possible to load the sand directly therefrom into barges hereafter, instead of dumping it into the lake for washing, and then to be loaded by the dipper dredge *Chagres*. The hull of the 16-inch suction dredge *Nombre* has been raised and will soon be in commission again.

Porto Bello Quarry and Crushers.

Over fifty thousand cubic yards were excavated at the Porto Bello quarry in October in the work of supplying rock for the crushers, nearly 10,000 cubic yards of earth being washed off the rock by the hydraulic method, and four steam shovels removing 40,836 cubic yards of the rock itself. The crushed rock was used both at Gatun and Pedro Miguel.

The regular dance of the Tivoli Club will be held at the Hotel Tivoli in Ancon on November 13.

THE PUBLIC SCHOOLS.

Attendance and Teaching Force—High School Work—Industrial Work in the Schools for Colored Children.

The public schools of the Canal Zone were opened for instruction on October 4. The enrollment and attendance for the month, compared with that for the same month in 1907 and 1908, were as follows:

Schools.	Enrollment.			Attendance. (Average.)		
	1907.	1908.	1909.	1907.	1908.	1909.
White	351	622	745	243	492.7	638.3
Colored....	1,014	1,073	1,067	637	695.5	672.2
Total	1,365	1.695	1,812	880	1,188.2	1,310.5

In his report for October the Superintendent of Schools states that more than half of the teachers in the schools for white children are graduates from universities or normal schools in the States. There are 35 teachers for the schools for white children, and of this number 12 hold A. B. degrees, and 11 certificates from normal schools, while all of the teachers have had two or more years' of successful experience in the States or the Canal Zone.

> So far as my experience extends I feel that the Zone system of schools will not suffer by comparison with any in the States of like size. Personal inspection of all the white schools, and reports made by supervisors, justify the belief that inadequate school facilities are not among the sacrifices made by families who come to the Canal Zone. There is some inefficient teaching, but not more than is to be found in any system of this size.

Three high schools are maintained at the present time—one at Cristobal with an attendance of 20 pupils, one at Gatun with 8 pupils, and one at Culebra with 15 pupils. Of the total number of pupils 11 are being transported to Cristobal, and 11 to Culebra. The Superintendent states:

> As to the quality of the work, no disparagement is meant the teachers when I say that it is not such as will be accepted by the leading colleges and universities in the States. None of the higher schools of any standing will accept work done in high schools with less than three teachers, all of whom must devote their time to the teaching of high school subjects.

To overcome the disadvantages presented by maintaining three small schools, and so dissipating the energies of the teachers by obliging them to teach in all departments, to make it possible to establish a good working library at small cost, and to gain for the high school the advantage of the school enthusiasm that comes with numbers, it is recommended that the high schools be concentrated in one school at Cristobal with a half day session beginning at 1.15 o'clock and closing at 4.15 o'clock in the afternoon. The children from points along the line would go to Cristobal on the train leaving Panama at 10.45 in the morning and return on the train leaving Colon at 4.30 in the afternoon. The Superintendent states that "the certificate of such a school would be honored anywhere, and the arrangement would give the Zone a system from the first grade up as complete and as thorough as any in the States."

Answering an inquiry as to the feasibility of compulsory education in the Canal Zone, the Superintendent says that such a law would operate principally among the non-American children, and that the present appropriation is inadequate to meet the demands that would be made by enforcing the law. He believes, however, that there are urgent social reasons why the Government should enact a compulsory education law, as the social future of the Canal Zone depends largely upon the future generations of the natives and the negroes living here. With this idea in view the course of study in the schools for colored children has been reorganized, with the end of laying more stress on industrial than cultural work. Reading, writing, spelling, the fundamentals of arithmetic, hygiene and language now constitute the curriculum in the colored schools. Some American history and geography are given, but as reading lessons, not as history or geography lessons. In addition it is planned to do some elementary work in agriculture and horticulture. To this end the Commission has been asked to appropriate small plots of ground near the Culebra building.

The Superintendent of Schools has been directed to prepare a report on the question of industrial education and institutions for the correction of juvenile offenders.

October Rainfall for Three Years.

Station.	1907.	1908.	1909.	Years of record.	Station average.	No. rainy days—1909.
Atlantic Division—						
Porto Bello......	......	7.28	8.70	1	......	23
Cristobal.........	21.99	10.96	19.31	39	13.98	26
Brazos Brook....	18.42	11.95	14.82	3	15.59	27
Gatun	19.27	12.22	15.55	4	17.48	25
Gatun River.....	......	13.53	13.38	1	......	26
Trinidad.........	......	12.95	14.58	1	......	29
Central Division—						
Bohio............	19.00	14.25	16.34	15	16.98	26
Tabernilla.......	26.46	14.57	17.02	2	20.52	26
San Pablo........	18.94	12.95	15.81	2	15.94	22
Gorgona.	......	......	18.90	5	11.90	27
Gamboa..........	13.02	8.90	16.98	26	12.60	26
Empire..........	15.44	8.87	21.14	4	12.82	26
Camacho	15.88	6.81	20.63	3	10.25	27
Culebra..........	15.27	9.03	17.70	20	10.93	24
Pacific Division—						
Rio Grande......	15.09	8.59	18.52	4	11.38	23
Pedro Miguel....	......	8.41	17.47	1	......	23
Miraflores.......	......	......	17.53	....	......	..
Balboa...........	10.18	7.57	11.20	10	8.83	23
Ancon	9.26	8.79	8.70	12	10.70	27
Upper Chagres—						
Alhajuela........	10.89	15.09	19.32	10	12.77	27
El Vigia	......	13.80	20.93	1	......	29

Rainfall, November 1 to 6, 1909, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

Stations.	Maximum in one day.	Date.	Total for period.
Atlantic Division—	*Ins.*		*Ins.*
Cristobal	1.50	1	3.90
Brazos Brook.....................	.77	2	2.27
Gatun.............................	.96	6	2.11
Central Division—			
Bohio.............................	.75	1	2.45
Tabernilla........................	1.73	2	3.64
San Pablo....	1.05	2	2.49
Gorgona...........................	1.28	3	2.87
Gamboa............................	1.52	2	2 65
Empire............................	1.77	4	4.29
Camacho	1.57	1	5.49
Culebra...........................	1 73	2	5.31
Pacific Division—			
Rio Grande........................	1.80	2	5.77
Pedro Miguel......................	1.29	2	2.36
Miraflores....................... .	1.85	2	3.61
Balboa............................	1.26	2	2.82
Ancon..	1.15	3	2.60
Atlantic Coast—			
Porto Bello.......................	1.72	6	3 05
Nombre de Dios	1.86	6	2.75
Upper Chagres—			
El Vigia..........................	.74	1	2.52
Alhajuela.........................	1.62	4	4.77

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ended midnight Saturday, October 30, 1909:

	Stations.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft..	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Oct. 24....	131.1	96.4	50.7	10.7	5.0	4.2
Monday, Oct. 25....	129.2	96.2	51.5	9.6	4.3	3.5
Tuesday, Oct. 26...	127.6	94.5	49.4	7.6	3.5	3.1
Wed'esday, Oct. 27.	128.5	94.7	50.5	10.7	4.3	3.0
Thursday, Oct. 28.	130.0	95.8	51.6	12.2	5.8	5.2
Friday, Oct. 29.....	126.7	93.6	48.9	9.4	5.2	4.2
Saturday, Oct. 30..	130.4	96.0	51.6	8.0	3.2	2.4

Maximum height of Chagres River above mean sea level for the week ended midnight Saturday, November 6, 1909:

	Stations.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft..	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Oct. 31	129.4	95.3	51.6	10.4	4.5	3.8
Monday, Nov. 1....	129.4	95.3	51.2	10.4	4.7	3.8
Tuesday, Nov. 2 ...	127.6	94.2	50.8	11.5	5.1	4.4
Wed'esday, Nov. 3.	126.9	93.7	49.9	11.5	5.2	4.4
Thursday, Nov. 4..	129.8	95.4	51.6	10.9	4.5	3.4
Friday, Nov. 5.....	130.6	96.1	52.0	12.3	6.0	5.0
Saturday, Nov. 6 ..	128.4	95.1	52.0	13.1	6.5	5.6

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending November 17, 1909 (75th meridan time):

Date.	High.	Low.	High.	Low.
	A. M.	A. M.	P. M.	P. M.
Nov. 11..............	2.40	8.54	3.08	9.05
Nov. 12..............	3.11	9.26	3.37	9.40
Nov. 13..............	3.41	9.59	4.05	10.13
Nov. 14..............	4.11	10.33	4.36	10.46
Nov. 15..............	4.43	11.07	5.10	11.22
				MDNT.
Nov. 16..............	5.16	11.43	5.45	12.00
		P. M.		
Nov. 17..............	5.54	12.23	6.26	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Gorgona, C. Z., on Sunday, November 14, 1909, at 6 p. m. The program follows:

1 March—*Unter dem Freiheitsbanner*..Nowowieski
2 Selection—*The Midnight Sons*............Hubbell
3 { *a* Indian March—*Trailing the Trail*.Spaulding
{ *b* Two Step—*Pigeon Wing Rag*........Johnson
4 Flower Song—*Adoration*.................Barnard
5 Medley—*The Sunny South* ....Lampe
Introducing "Swanee River," "Listen to the Mocking Bird," "My Old Kentucky Home," "Arkansas Traveler," "Massa's in the Cold, Cold Ground," "Zip Coon," "Old Black Joe," and "Dixie."
6 Overture—*Light Cavalry*....................Suppe
7 Waltz—*Jolly Fellows*.....................Vollstedt
8 Chilian Dance—*Manana*..................Missud
9 Descriptive—*The Cavalry Charge*.........Luders
10 March—*Festal Day*..........................Roux

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Hotel Tivoli, Ancon, on Sunday, November 21.

WEATHER CONDITIONS, CANAL ZONE, OCTOBER, 1909.

Stations.	Press're (reduc'd to mean of 24 hours.)	Temperature.					Mean relative humidity.	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches	Station average per month.	Number of rainy days.	Total movement (in miles.)	Prevailing direction.	Max. velocity (in miles.)	Direction.	Date.
Cristobal................	29.842	79 0	89	4	71	8	91	19.31	....	26	4 595	S.E.	30	S.E.	30
Culebra	29.486	78.5	90	26	69	8	94	17.70	....	24	3,325	S.E.	24	S.W.	6
Ancon..	29.838	78.6	89	5	69	2	91	8 77	... .. .	27	4,192	S.	22	S.	8

OFFICIAL CIRCULARS.

Lubricating Oil on Locomotives.

CULEBRA, C. Z., October 27, 1909.

CIRCULAR NO. 290:

In order to promote economy in the use of oil on locomotives, the following rules are approved and issued for the guidance of all concerned:

Effective November 1, 1909, every engineer will be furnished with one 2-gallon oil can marked for and containing one gallon of valve oil, and with one 2-gallon oil can marked for and containing one gallon of engine oil. This oil will be considered as emergency oil by all engineers and will be used only in emergency cases.

The regular oil allowance for all engines after November 1, 1909, will be:

1.5 pints of valve oil per day.
3 pints of engine oil per day.
1 gallon of headlight oil per day.
Each engine will be allowed one-half pound of waste per day.

Engineers will be expected to use this oil as economically as possible, and if any saving in same can be made it should be put into the emergency cans.

If engineers are compelled to use from their emergency cans, they may have same replenished at any engine house, giving receipt for same to the engine house foreman, together with the statement of the emergency which necessitated the use of the emergency supply. This statement will be forwarded to the traveling engineer.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Rates at the Hotel Tivoli.

CRISTOBAL, C. Z., October 30, 1909.

CIRCULAR NO. 96:

The circular of the manager of the Department of Labor, Quarters and Subsistence, effective January 1, 1908, prescribing rates, rules and regulations for the Hotel Tivoli, is hereby revoked.

The following rates and rules for the Hotel Tivoli are published, effective November 1, 1909:

RATES FOR NONEMPLOYES—ROOM AND MEALS.

Grade of room.	No. persons in room.	Transient daily.	WEEKLY.		MONTHLY.			
					First month.		Second month.	
			Per day.	Per week.	Day.	Month.	Day.	Month
1	1	$6.00	$5.25	$36.75	$4.25	$127.50	$3.75	$112.50
1	2	11.00	9.50	66.50	7.50	225.00	6.50	195.00
2	1	5.00	4.50	31.50	3.75	112.50	3.25	97.50
2	2	9.00	8.00	56 00	6.50	195.00	5.50	165.00
3	1	4 50	4.00	28.00	3.25	97.50	2.50	75.00
3	2	8.00	7.00	49.00	5.50	165.00	4.50	135.00

RATES FOR EMPLOYES—TRANSIENT.

Daily—Same as daily rates for first month nonemployes.

Monthly—Same as monthly rates for second month nonemployes.

Special rates will be made for room and meals for women employes for whom no quarters are provided at Ancon.

RATES FOR MEALS.

Transient.			*Table Board.*	
	Nonemployes.	*Employes.*	*Nonemployes.*	*Employes.*
Breakfast.	$0.75	$0.75	$14	$12 per week.
Luncheon	1.00	0.75	48	45 per month.
Dinner....	1.00	0.75		

An extra charge of 50 cents per day per person will be made for grade 2 rooms *en suite* with grade 1 rooms with bath when occupied by day or week for nonemployes, and 25 cents per day per person for employes or for first month nonemployes.

An extra charge of 25 cents will be made for breakfast served in room, and an extra charge of 50 cents for lunch or dinner.

Two in a room is ordinarily the full capacity of grade 1 and grade 2 rooms, but if it be necessary for more than two persons to occupy a room temporarily, the charge for each additional person will be $4.75 for grade 1 rooms and $3.75 for grade 2 rooms. Grade 3 rooms will ordinarily not be rented to more than one person by day or week. An extra charge of 50 cents will be made for two transient employes occupying a grade 3 room.

The rate for servants when occupying room will be two-thirds the regular rate; when occupying cot in room or bath room or in regular servants' quarters, one-half the usual rate for grade 3 room.

The rate for children under twelve when occupying room with parents or nurse and requiring no extra bed but occupying seat at table will be a flat rate of $1.25 per day for daily rate and $1 per day for weekly or monthly. Over twelve years of age, full rates will be charged. An extra charge of 50 cents per day will be made for children where a cot or extra bed is required in room with parents or nurse.

Employes will be required to pay bills at time of leaving in coupons. If properly identified as employes to the satisfaction of the manager, bills may be paid in currency. Persons must pay for all meals unless one day's meals or more are missed consecutively, in which case notice must be given to the clerk in advance in order to secure credit. Credit for meals will be allowed to employes at the rate of $2 per day and to nonemployes, $2.50 per day for meals on daily or weekly rates.

If rooms be occupied by the month and guests are absent, credit will not be given for the room. If absence is for one full week, credit will be allowed for meals from the full monthly rate at the rate of $1.50 per day for nonemployes and $1.25 a day for employes. Notice must be given to the clerk in writing or in person in advance to secure credit.

Open accounts will not be permitted. Guests will be required to pay their bills upon leaving. Accounts of transient employes unpaid at time of leaving will be made up at the proper nonemployes' rate and sent to the Examiner of Accounts. Bills will be made up on the 7th, 14th, 21st and last day of the month, and are due and payable upon presentation. No variations from this rule will be made without authority from the Subsistence Officer.

Rooms will not be rented to employes by the month without authority from the Subsistence Officer.

No employe of the hotel has authority to make any rate or arrangement or modify any of the foregoing rules in any way.

EUGENE T. WILSON, *Subsistence Officer.*

Payments for Transportation, New York to Colon.

PANAMA RAILROAD COMPANY,
COLON, R. P., November 1, 1909.

CIRCULAR LETTER NO. 210:

Our New York office reports that employes who are in the States on their vacations, when remitting to that office in payment for their return passage, New York to Colon, in many instances make their checks or postal orders payable to an official of the railroad, which, in the event of the individual to whom the order is made payable being absent, necessitates the holding of the order for endorsement before the amount can be deposited. Please issue instructions to all concerned that payment for transportation, New York to Colon, on our steamers, be made to *Panama Railroad Company* and not to an individual.

G. E. GEER, *Acting General Manager.*

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal, Colon, and Balboa during the week ending November 6, 1909, with supplies for the Isthmian Canal Commission:

Ancon, October 31, from New York, with 18,000 barrels cement, for Atlantic Division; 24,000 bags cement, for Pacific Division; 1 launch, for use at Cristobal; 94 tons structural material, for handling plant, Miraflores; 136 tons angle bars, for stock.

Prinz Aug. Wilhelm, November 1, from New York, with 85 tons hay, for corrals.

Sea-going tug *P. J. No. 8*, for the Atlantic Division, arrived November 1, from New York.

Allianca, November 3, from New York, with 400 bundles shovels, 1,000 cases lubricating oil, 32 cases electric fuses, for stock; 50 tons castings, for car repairs; 35 tons structural material, for handling plant, Miraflores; 2 towing chocks, for Atlantic Division; 1,000 bundles side stakes, for cars; and a miscellaneous cargo aggregating 5,102 packages, weighing 340 tons.

Turrialba, November 4, from New Orleans, with 360 bundles of shooks, for Department of Sanitation; 150 pieces piling, for Gatun; 10,000 feet white pine lumber, for stock; 254 bales hay, for corrals.

Belle of Scotland, (at the port of Balboa) November 3, from Puget Sound, with 2,191,013 feet fir lumber, for car and unloader repairs, Gorgona; 259,610 feet fir lumber, for Gatun; 1,059,902 feet fir lumber, 6,707 feet fir cross ties, for stock.

Proposals for Erecting Commission Buildings

Sealed proposals for labor only will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., November 25, 1909, and then opened, for the erection by contract of a recreation hall and a commissary building at Porto Bello Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $200 when the contract is signed.

C. A. DEVOL,
Chief Quartermaster.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

BOWLING TOURNAMENT CONTESTS.

The bowling tournament games rolled Saturday night, November 6, at Culebra, between Culebra and Gorgona, resulted as follows:

Culebra.	*First.*	*Second.*	*Third.*	*Total.*
Lamster	176	220	171	567
Hayes	154	165	159	478
Winters	131	174	163	468
Vogel	128	139	114	381
Dougherty	187	180	165	532
Total	776	878	772	2,426
Gorgona.				
Otis	122	129	178	429
King	130	93	....	223
MacConaughy	...	....	124	124
Hayes	184	115	149	448
Haldeman	116	183	159	458
Buchanan	181	132	147	460
Total	733	652	757	2,142

The bowling tournament games rolled Saturday night, November 6, between Cristobal and Empire at Cristobal, resulted as follows:

Cristobal.	*First.*	*Second.*	*Third.*	*Total.*
Bullard	170	152	157	479
Louch	167	171	151	489
Collins	176	197	161	534
Strong	166	183	176	525
Gilmartin	155	171	209	535
Total	834	874	854	2,562
Empire.				
Brown	179	190	185	554
Potter	202	201	194	597
Gorham	162	143	...	305
Shaughnessy	...	...	236	236
Hinckley	154	161	151	466
Huson	168	192	163	523
Total	865	887	929	2,681

CULEBRA.

Culebra defeated Cristobal in a game of indoor baseball by a score of 31 to 10. The line-up was as follows:

Culebra—Cushing, Fleischman, Tupper, French, Lindsay, Kramer, Kirk. Cristobal—Schwallenberg, A. Burn, W. Burn, Tuttle, Sims, Russell, Whitbeck.

An informal smoker will be held on Friday night of this week.

The handball match with Cristobal scheduled for last Saturday night was called off owing to some of the Cristobal men being on vacation.

CRISTOBAL.

A concert was given by an orchestra from one of the German boats, last Monday night.

A meeting of the Cristobal council will be held Friday night of this week.

EMPIRE.

An entertainment will be given in the entertainment hall on Thursday evening, November 11.

There will be a meeting in the gymnasium, Wednesday evening, November 10, at 7.30, to organize an indoor baseball team. All interested are urged to be present in their baseball suits as a practice game will be played after the organization of the team.

A regular four-months' gymnasium class will be started Wednesday, December 1. All members of the Empire Y. M. C. A. wishing to take a course in physical culture are requested to make an appointment with Mr. Ludwig for a thorough physical examination.

On Saturday night, October 23, in the bowling tournament games, C. J. Huson made a score of 254 instead of 154 as shown in THE CANAL RECORD for last week. This is the highest score rolled this year.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., November 10, 1909.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Anderson, Frank
Ashton, Miss Pauline
Bijel, William
Craddock, Durrett
Cross, George A.
Egan, Raymond
Fields, Robert
Graham, F. L.
Graham, Frank J.
Hamilton, William
Hiscick, W. P.
Kerrensh, William L.
Martin, Arthur
Merrifield, Ed.
Moore, F. F.
Morgan, George W.
Nicolai, George (2)
Parkis, Sydney W.
Perry, Edward W.
Resky, George
Rhinehardt, W.
Shepherd, Arthur
Simonson, C. D.
Thurston, Ed.
Vincent, Miss Joseph A.
Wright, Arthur W.

LOST—Canal medal No. 309, either in Cristobal, Colon, or Mount Hope. Finder will please return same to C. L. Van Zant, Mount Hope storehouse.

CANAL DIRECTORY.

ISTHMIAN CANAL COMMISSION.

Lieut.-Col. Geo. W. Goethals, U. S. A., Chairman, Culebra.
Lieut.-Col. H. F. Hodges, U. S. A., Culebra.
Lieut.-Col. D. D. Gaillard, U. S. A., Empire.
Lieut.-Col. Wm. L. Sibert, U. S. A., Gatun.
Civil Engineer H. H. Rousseau, U. S. N., Culebra.
Mr. Jo C. S. Blackburn, Ancon.
Col. W. C. Gorgas, U. S. A., Ancon.
Mr. Joseph Bucklin Bishop, Secretary, Ancon.

DEPARTMENTS.

Construction and Engineering.

Headquarters, Culebra.

Lieut.-Col. Geo. W. Goethals, Chairman and Chief Engineer.
William Howard May, Secretary to the Chairman.
M. B. DePutron, Assistant to the Chairman.
C. A. McIlvaine, Chief Clerk.
John K. Baxter, Assistant Chief Clerk.
H. S. Farish, Surveying Officer.
Caleb M. Saville, Assistant Engineer.

Lieut.-Col. H. F. Hodges, Assistant Chief Engineer.
C. O. Carlson, Secretary.
Edward Schildhauer, Electrical and Mechanical Engineer.
Henry Goldmark, L. D. Cornish, H. F. Tucker, T. B. Mönniche, Edward C. Sherman, Designing Engineers.

Civil Engineer H. H. Rousseau, Assistant to the Chief Engineer.
J. C. Parsons, Secretary.
A. B. Nichols, Office Engineer.

Central Division.

Headquarters, Empire.

Lieut.-Col. D. D. Gaillard, Division Engineer.
L. K. Rourke, Assistant Division Engineer.
A. E. Bronk, Chief Clerk.
A. S. Zinn, Resident Engineer.
Mark W. Tenny, Assistant Engineer.
W. L. Thompson, Assistant Engineer.
George A. Greenslade, Supt. Construction.
J. W. Sneed, Superintendent Construction.
D. E. Crowley, Superintendent Construction.
Joseph Little, Superintendent Construction.
W. T. Reynolds, Superintendent Construction.
A. Sessions, Superintendent Transportation.
William H. Bates, Supt. Steam Shovel Repairs.
E. E. Rigney, Superintendent Air and Water.
Dan E. Wright, Supt. Municipal Work.

Atlantic Division.

Headquarters, Gatun.

Lieut.-Col. Wm. L. Sibert, Division Engineer.
Maj. Chester Harding, U. S. A., Assistant Division Engineer.
R. M. Sands, Chief Clerk.
Maj. Edgar Jadwin, U. S. A., Resident Engineer.
Maj. J. P. Jervey, U. S. A., Resident Engineer.
Capt. G. M. Hoffman, U. S. A., Assistant Engineer.
Capt. Horton W. Stickle, U. S. A., Assistant Engineer.
Geo. M. Wells, Office Engineer.

Pacific Division.

Headquarters, Corozal.

S. B. Williamson, Division Engineer.
John M. G. Watt, Assistant Division Engineer.
J. C. Keller, Chief Clerk.
W. G. Comber, Resident Engineer.
A. I. Campbell, Resident Engineer.
H. O. Cole, Assistant Engineer.
Frank Cotton, Assistant Engineer.
James MacFarlane, Supt. of Dredging.

Gorgona Shops.

Headquarters, Gorgona.

A. L. Robinson, Electrical Engineer and Master Mechanic.
F. W. Doty, Chief Clerk.
W. O. Johnson, Superintendent of Outside Air Compressors and Electric Light Plants.

Subsistence.

Headquarters, Cristobal.

Maj. Eugene T. Wilson, U. S. A., Subsistence Officer.
Lieut. Frank O. Whitlock, U. S. A., Assistant Subsistence Officer.
W. F Shipley, Chief Clerk.
John Burke, Manager of Commissaries

Quartermaster's.

Headquarters, Culebra.

Lieut.-Col. C. A. Devol, U. S. A., Chief Quartermaster.
Lieut. R. E. Wood, U. S. A., Assistant Chief Quartermaster.
Capt. Courtland Nixon, U. S. A., Depot Quartermaster, Mount Hope.
Lieut. Walter D. Smith, U. S. A., Constructing Quartermaster.
C. H. Mann, Chief Clerk.
W. H. Macfarlane, Inspector of Construction and Repairs.
C. L. Parker, C. C. McColley, Inspectors.

District Quartermasters.

B. C. Poole, Ancon and Balboa.
C. E. Heisey, Bas Obispo.
Ira A. Giles (acting), Corozal.
Roy R. Watson (acting), Cristobal.
H. F. Sedwick, Culebra.
Walter G. Ross, Empire.
R. M. Gamble, Gatun.
R. C. Shady, Gorgona.
J. M. King, Las Cascadas.
J. T. Smith (acting), Pedro Miguel and Paraiso.
M. D. Smith, Porto Bello.
J. H. Humphrey, San Pablo and Tabernilla.

Civil Administration.

Headquarters, Ancon.

Jo C. S. Blackburn, Head of the Department.
H. D. Reed, Executive Secretary.
G. A. Ninas, Chief Clerk.

Tom M. Cooke, Chief, Division of Posts, Customs and Revenues, Ancon.
Arthur McGown, Deputy Collector, Ancon.
Jno. L. Storla, Deputy Collector, Cristobal.
George M. Shontz, Prosecuting Attorney, Ancon.
Grosvenor A. Porter, Chief of Police, Ancon.
D. E. McDonald, Chief Clerk.
C. E. Weidman, Fire Chief, Cristobal.
Geo. H. Ruggles, Supt of Public Works, Ancon.
C. R. Sargent, Chief Clerk.
J. J. Reidy, Asst. Supt. Public Works, Cristobal.
F. A. Gause, Superintendent of Schools, Ancon.
Edgar P. Beck, Treasurer of Canal Zone, Empire

Canal Zone Judiciary.

Headquarters, Ancon.

Supreme Court—H. A. Gudger, Chief Justice.
Walter Emery, Clerk, Ancon.
Lorin C. Collins, Associate Justice, Cristobal.
Wesley M. Owen, Associate Justice, Empire.
Circuit Court, First Circuit—H. A. Gudger, Judge, Ancon.
Walter Emery, Clerk.
Circuit Court, Second Circuit—Wesley M. Owen, Judge, Empire.
Elbert M. Goolsby, Clerk.
Circuit Court, Third Circuit—Lorin C. Collins, Judge, Cristobal.
Nelson R. Johnson, Clerk.
M. C. Rerdell, Senior District Judge, Cristobal.
S. E. Blackburn, District Judge, Ancon.
Edgar S. Garrison, District Judge, Empire.
J. B. March, District Judge, Gorgona.
Thomas E. Brown, Jr., District Judge, Cristobal

Sanitation.

Headquarters, Ancon.

Col. W. C. Gorgas, Chief Sanitary Officer.
Lieut.-Col. John L. Phillips, U. S. A., Assistant Chief Sanitary Officer.
Capt. Robert E. Noble U. S. A., General Inspector.
Harry E. Bovay, Chief Clerk.

Maj. Charles F. Mason, U. S. A., Superintendent Ancon Hospital, Aucon.
Surgeon J. F. Leys, U. S. N., Superintendent Colon Hospital, Cristobal.
Surgeon, J. C. Perry, P. H. and M. H. S., Chief Quarantine Officer, Ancon.
Surgeon Claude C. Pierce, P. H. and M. H. S. Quarantine Officer, Colon.
Dr. Fleetwood Gruver, P. H. and M. H. S., Quarantine Officer, Panama.
Joseph A. LePrince, Chief Sanitary Inspector, Ancon.
Dr. A. E. Mayner, Acting Health Officer, Panama.
Dr. M. E. Connor, Health Officer, Colon.

Disbursements.

Headquarters, Empire.

Edward J. Williams, Disbursing Officer.
Wm. M. Wood, Assistant Disbursing Officer.

Examination of Accounts.

Headquarters, Empire.

W. W. Warwick, Examiner of Accounts.
T. L. Clear, Assistant Examiner of Accounts.

Purchasing Department.

Headquarters, Washington, D. C.

Capt. F. C. Boggs, U. S. A., General Purchasing Officer.
C. E. Dole, Chief Clerk.

Capt. Courtland Nixon, Purchasing Agent on the Isthmus.
Maj. Wendell L. Simpson, U. S. A., Purchasing Agent, 24 State Street, New York City.
F. C. Nordsiek, Assistant Purchasing Agent, 24 State street, New York City.
Lieut-Col. Geo. B. Davis, U. S. A., Assistant Purchasing Agent, Custom House, New Orleans, La.

Panama Railroad Company.

Headquarters, Colon.
(General offices, 24 State Street, New York,)

H. J. Slifer, General Manager, Colon.
G. E. Geer, Assistant to the General Manager.
Lieut. Frederick Mears, Acting Chief Engineer.
J. A. Smith, Superintendent.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO COLON.

Colon	P. R. R.	Thursday	Nov. 4
Prinz Joachim	H.-A.	Saturday	Nov. 6
Advance	P. R. R.	Tuesday	Nov. 9
Atrato	R.-M.	Saturday	Nov. 13
Panama	P. R. R.	Monday	Nov. 15
Allianca	P. R. R.	Saturday	Nov. 20
Prinz Aug. Wilhelm	H.-A.	Saturday	Nov. 20
Colon	P. R. R.	Saturday	Nov. 27
Tagus	R.-M.	Saturday	Nov. 27
Advance	P. R. R.	Thursday	Dec. 2
Prinz Joachim	H.-A	Saturday	Dec. 4
Panama	P. R. R.	Thursday	Dec. 9
Oruba	R.-M.	Saturday	Dec. 11
Allianca	P. R. R.	Tuesday	Dec. 14
Prinz Aug. Wilhelm	H.-A.	Saturday	Dec. 18
Colon	P. R. R.	Tuesday	Dec. 21
Magdalena	R.-M.	Saturday	Dec. 25
Advance	P. R. R.	Monday	Dec. 27
Prinz Joachim	H.-A.	Saturday	Jan. 1
Clyde	R.-M.	Saturday	Jan. 8
Prinz Aug. Wilhelm	H.-A.	Saturday	Jan. 15
Thames	R.-M.	Saturday	Jan. 22

Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

COLON TO NEW YORK.

Colon	P. R. R.	Tuesday	Nov. 16
Tagus	R.-M.	Wednesday	Nov. 17
Advance	P. R. R.	Sunday	Nov. 21
Prinz Joachim	H.-A.	Tuesday	Nov. 23
Panama	P. R. R.	Saturday	Nov. 27
Oruba	R.-M.	Wednesday	Dec. 1
Allianca	P. R. R.	Thursday	Dec. 2
Prinz Aug. Wilhelm	H.-A.	Tuesday	Dec. 7
Colon	P. R. R.	Thursday	Dec. 9
Advance	P. R. R.	Tuesday	Dec. 14
Magdalena	R.-M.	Wednesday	Dec. 15
Panama	P. R. R.	Tuesday	Dec. 21
Prinz Joachim	H.-A.	Tuesday	Dec. 21
Allianca	P. R. R.	Sunday	Dec. 26
Clyde	R.-M.	Wednesday	Dec. 29
Colon	P. R. R.	Sunday,	Jan. 2
Prinz Aug. Wilhelm	H.-A.	Tuesday	Jan. 4
Advance	P. R. R.	Saturday	Jan. 8
Thames	R.-M.	Wednesday	Jan. 12

A fortnightly service of the steamers Ancon and Cristobal will be maintained as nearly as possible but changes from the schedule may be found necessary. The following is the schedule:

NEW YORK TO CRISTOBAL.

Ancon	P. R. R.	Wednesday	Nov. 17
Cristobal	P. R. R.	Wednesday	Dec. 1
Ancon	P. R. R.	Wednesday	Dec. 15

CRISTOBAL TO NEW YORK.

Cristobal	P. R. R.	Wednesday	Nov. 17
Ancon	P. R. R.	Wednesday	Dec. 1
Cristobal	P. R. R.	Wednesday	Dec. 15
Ancon	P. R. R.	Wednesday	Dec. 29

NEW ORLEANS TO COLON.

Atenas	U.F.C.	Saturday	Nov. 13
Turrialba	U.F.C.	Saturday	Nov. 20
Abangarez	U.F.C.	Saturday	Nov. 27

COLON TO NEW ORLEANS.

Abangarez	U.F.C.	Tuesday	Nov. 16
Atenas	U.F.C.	Tuesday	Nov. 23
Turrialba	U.F.C.	Tuesday	Nov. 30
Abangarez	U.F.C.	Tuesday	Dec. 7

CANAL RECORD

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The Canal Record

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Address all Communications

THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Concrete Laying at Gatun.

In the week ending November 13, there were laid in Gatun Locks 7,908 cubic yards of concrete, making the total laid to date as follows:

	Cubic Yards.
August (seven days)	1,298
September (26 days)	11,934
October (31 days)	29,378
November 1 to 6	6,692
November 7 to 13	7,908
Total	57,210

The record for one day was broken on November 11 when 1,588 cubic yards were laid. The daily record for the week is as follows:

	Cubic Yards.
November 7 (Sunday)	.....
November 8	1,050
November 9	1,408
November 10	1,408
November 11	1,588
November 12	1,268
November 13	1,156
Total	7,908

In the spillway 303 cubic yards of concrete were laid during the week.

Concrete Work at Pedro Miguel Locks.

A total of 2,913 cubic yards of concrete was added to the amount already laid at the Pedro Miguel Locks during the week ending November 13. The heavy rain on Friday, November 12, partially flooded the lock pit and retarded the work, as shown in the record of output for that day. The total for the week, however, was about 600 yards greater than for the previous week, and well up to the high mark of the week ending October 30, when the record was 2,991¼ cubic yards.

The daily output for the six working days of the past week was as follows:

	Cubic Yards.
November 8	489
November 9	466
November 10	550½
November 11	501
November 12	364½
November 13	542
Total	2,913

The amount of concrete laid from the beginning of work on September 1 to November 13 inclusive, is as follows:

	Cubic Yards.
September	2,369½
October	8,396¼
November 1 to 6	2,236½
November 8 to 13	2,913
Total	15,915¼

Rainfall and Canal Work.

In the 24 hours ending at 5 o'clock in the afternoon of November 12, a steady rain fell in the territory of the Atlantic and Central Divisions. The total precipitation at various points, and the amount that fell during working hours are shown in the following table:

STATION.	Total for 24 hours.	7 a. m. to 5 p. m.
	Inches.	*Inches.*
Cristobal	8.62	1.82
Gatun	4.64	1.70
Bohio	5.17	3.17
Culebra	1.71	1.11
Alhajuela	4.56	1.71

It will be noticed that in the territory of the Central Division, where the greatest amount of dry excavation is in progress the rainfall was heaviest during working hours. A comparison has been made from data compiled for the calendar year, 1908, showing the proportion of the rain that fell during working hours. Although the rainfall at Cristobal was nearly twice as great as that at Culebra the amount that fell during working hours was almost identical at the two points. In fact, in the Culebra Cut region almost all the rainfall was during the hours when work was in progress. The comparison is appended:

STATION.	Total Rainfall 1908.	Total Rainfall during Working Hours, 7 a. m. to 5 p. m.	
	Inches.	*Inches.*	*Per cent of Total.*
Cristobal	137.71	67.32	49
Bohio	118.98	83.82	70
Culebra	77.45	64.83	84
Pedro Miguel	77,45	65.22	84
Balboa (La Boca)	56.71	39.67	70

STATION.	MAXIMUM RAINFALL.		MINIMUM RAINFALL.	
	Hour.	Accumulated Amount.	Hour.	Accumulated Amount.
	P. M.	*Inches.*	P. M.	*Inches.*
Cristobal	1 to 2	12.59	10 to 11	1.79
Bohio	2 to 3	14.81	9 to 10	.82
Culebra	2 to 3	16.04	9 to 10	.28
Pedro Miguel	1 to 2	17.57	9 to 10	.22
Balboa (La Boca)	1 to 2	8.96	A. M. 3 to 4	.30

A Model of the Locks.

A working wooden model of the locks in progress of construction at Pedro Miguel has been made at the pattern shop at Gorgona foundry, and is on view in the Chairman's office at Culebra. It shows the methods by which the locks will be filled with and emptied of water, and the manner in which vessels will be taken through. Models of the largest ship now under construction, the largest of the war vessels of the American Navy, and of an ordinary ship in the merchant trade have also been constructed to scale with the model of the locks. These models placed in the locks show the relation of various types of vessels to the Canal locks. As all the locks are of one type and size the model of those at Pedro Miguel is a counterpart of those to be constructed at Gatun and Miraflores.

Deliveries of Coal.

Deliveries of coal are made at present to the Panama railroad for use on the railroad and Canal work at the rate of 40,000 tons a month. About 20,000 tons have been stored in the pile at the Cristobal drydock, and a new pile is about to be started near the Panama railroad shops in Cristobal. The deliveries will continue at the rate of 40,000 tons a month until January, when they will be cut to 25,000 tons, which is about the monthly consumption on the Isthmus.

Instruction of Engineer Lieutenants.

Lieut.-Col. D. D. Gaillard, Major Chester Harding, and Major J. P. Jervey have been designated a board to prepare a program for the young men, graduated from West Point in 1909 and assigned to the Corps of Engineers, who have been detailed to the Isthmus for five months of observation and instruction. The program will include the practical observation of all classes of work on the Canal, including meteorology and river hydraulics, the location of the new Panama railroad, and a study of the plans for the locks and lock machinery. It is expected that the young officers will arrive about December 10, and they will be quartered along the line of the Canal in proximity to the work they are observing.

New Tugs for Atlantic and Pacific Divisions.

A tugboat recently completed at the Staten Island Shipbuilding Company's yards in Port Richmond has been delivered at Cristobal and turned over to the Atlantic Division for use in the harbor and in the service between Porto Bello, Nombre de Dios, and Cristobal. It is of steel, single screw, 600 horsepower, and is equipped with one triple expansion condensing engine with cylinders of 13, 22, and 36 inches and 2-foot stroke, and a boiler 11¼ feet long and 170 inches in diameter. The hull is 120 feet long, 24 feet molded width, and 14½ feet deep. The new tug has been named *Empire*.

The purchase of a new tugboat for the use of the Pacific Division has been determined upon, and several bids from firms in the States have been received. The two tugs now in the service of the Pacific Division work 36 hours out of 48, and the towing of sand from Chamé will presently increase the amount of work to be done by them. The new tug will be about 118½ feet

NOTES OF PROGRESS.

Continued.)

long, 23 feet molded beam, 12½ feet deep, and will be fitted with triple condensing engines 13, 21, 32 inches, with 24-inch stroke, and with a cylindrical return tubular boiler 14 feet in diameter and 12½ feet long with three cylindrical furnaces 45 inches in diameter. The delivery will be made at Ancon in ten months, after a voyage through the Straits of Magellan.

Agricultural Experts.

The appended letter has been sent by the Secretary of Agriculture to the Secretary of War:

Sir—Referring to your communication of October 19, relative to the visit of experts from this Department to the Canal Zone, I have the honor to advise you that plans have now been perfected to have these gentlemen sail for the Isthmus on November 15, on the steamer *Panama*. Mr. W. A. Taylor, of the Bureau of Plant Industry, and Mr. H. H. Bennett, of the Bureau of Soils, have been selected. These officers have already conferred fully with officers in the War Department regarding maps and other information that will be useful to them. Very respectfully,

JAMES WILSON, *Secretary*.

Two Weeks Annual Leave for Hourly Employes.

The following is a copy of a letter addressed by the Secretary of War to the Chairman and Chief Engineer under date of September 25, 1909:

You are hereby directed, effective January 1, 1910, to allow American citizens who are hourly employes on the gold roll of the Isthmian Canal Commission, two weeks leave per year on pay, computed at the rate of eight hours per day, and at the same pay per hour as they are receiving respectively at the time leave is taken.

Such leave may be taken each year or accumulated to an amount not exceeding six weeks.

The same length of service will be required in earning this leave as is now prescribed by the regulations of the Commission for monthly employes.

Picked Up by the "Culebra."

On its first trip out toward sea in the Pacific entrance on the morning of November 10, the suction dredge *Culebra* sighted a motor boat, about six miles south of San José Rock, flying a flag of distress and laboring in the heavy sea that was running at that time. The *Culebra* bore down on the boat, and found that it was the *Corso* of Panama, which was helpless because of having lost its rudder. At the request of the master of the *Corso* the boat was taken in tow and the passengers, two women and four men, were landed at Balboa.

Work of Unloaders in October.

A statement of Lidgerwood cars unloaded in the Central Division during the month of October follows:

LOCATION.	No. of unloaders.	No. of trains.	No. of cars.
Balboa	3	836	15,884
Miraflores	3	713	13,813
Tabernilla	5	1,476	26,568
Total	11	3,025	56,265

Visit of the Congressmen.

The congressional party arrived at Cristobal on the steamer *Cristobal* on the afternoon of November 10, and was taken by special train across the Isthmus to Ancon, where quarters had been assigned at the Hotel Tivoli. The first week was spent in inspecting the work along the line of the Canal. The hearings will begin on November 17 at Culebra.

The members of the official party are:

Members of House Committee on Appropriations.

JAMES A. TAWNEY of Minnesota, *Chairman*.
HENRY H. BINGHAM of Pennsylvania.
WASHINGTON GARDNER of Michigan.
JOSEPH V. GRAFF of Illinois.
J. WARREN KEIFER of Ohio.
EDWARD L. TAYLOR, JR. of Ohio.
GEORGE R. MALBY of New York.
JOHN J. FITZGERALD of New York.
SWAGAR SHERLEY of Kentucky.
E. J. BOWERS of Mississippi.

Members of the Senate Committee on Interoceanic Canals.

F. P. FLINT of California.
F. B. BRANDEGEE of Connecticut.
C. I. CRAWFORD of South Dakota.

Representatives W. B. McKinley and M. B. Madden of Illinois, W. H. Stafford of Wisconsin, A. J. Barchfeld of Pennsylvania, J. N. Langham of Pennsylvania, James C. Courts, Clerk of the Committee on Appropriations, and Assistant Clerk Shields; W. A. Smith, in charge of Congressional Record; House Reporters Cremer and Dodge, and John R. Pierce, House Messenger.

Representatives Madden and McKinley left for New Orleans, and Senator Flint for New York, on November 16.

Delegates to National Red Cross.

THE CANAL RECORD:

Section 18, "Charter and Regulations for Branch Societies, the American National Red Cross," states in part as follows:

Each State, Territorial or district society having reported a membership of one hundred or over and having been officially recognized by the Central Committee, shall elect two delegates to represent the society at the annual meeting of the American National Red Cross in December.

It is understood that the meeting in Washington takes place immediately after Congress assembles, which this year will be on December 6. Members of the Red Cross in the Canal Zone who expect to be on leave, and who can conveniently act as delegates, are requested to send their names to the President of the Canal Zone Branch in order that two delegates may be appointed.

Early action is requested.

C. A. DEVOL,
President, Canal Zone Branch.
Culebra, C. Z., November 15, 1909.

Life Saving Medals Awarded.

The Chairman of the Commission has presented to Robert Mellon, American, and Fitzgerald Wiltshire, Grenadian, the life saving medals awarded them by the Treasury Department "for heroic daring exhibited in rescuing a fellow employe." The medals are provided for by an Act of Congress. On January 20, 1909, the two men saved Robert Deane, a Scotchman, from drowning after he had fallen overboard from a launch near Perico Island.

Overtime in September.

The amount of overtime earned in the month of September by hourly employes of the four construction divisions as compared with that earned in August is as follows:

DIVISION.	August.	September.
Atlantic	$6,755.24	$8,960.12
Central	18,879.45	13,525.94
Pacific	4,204.21	3,463.69
Mechanical	3,806.91	3,857.35
Total	$33,645.81	$29,807.10

Steam Shovel and Dredge Men.

Local No. 19, I. B. of S. S. and D. M. will hold its regular monthly meeting in the I. C. C. Lodge Hall at Empire at 2.30 o'clock Sunday afternoon, November 21. All members are requested to attend.

S. I. LYONS, *Secretary and Treasurer*.
Empire, C. Z., November 12, 1909.

N. D. G. W. and N. S. G. W.

All N. D. G. W. and N. S. G. W. residing on the Isthmus are requested to send their addresses to me.

JOSEPH W. SMITH,
New Power Station, Gatun.
Gatun, C. Z., November 4, 1909.

The Gorgona Anti-Cigarette League at a meeting held on November 12, 1909 passed resolutions of regret on the death of one of its members, Nathan Cook.

WORK DONE SINCE 1907.

The following statement shows the status of the Canal work at the time of the visit of the House Committee on Appropriations to the Isthmus in November, 1907, and the amount of work that has been done since that time:

SUMMARY—OCTOBER 1, 1907.

WORK EXCAVATION.

	Cu. Yds.	Total Cu. Yds.
Atlantic Division.		
Wet	2,785,627	
Dry	841,446	
		3,627,073
Central Division.		
Wet		
Dry	10,411,677	
		10,411,677
Pacific Division.		
Wet	2,748,079	
Dry	53,773	
		2,801,852
Total wet	5,533,706	
Total dry	11,306,896	
		16,840,602

FILLING DAMS.

A small amount at toes of Gatun Dam—not estimated until later.

CONCRETE LAID.

None.

SUMMARY—OCTOBER 1, 1909.

WORK EXCAVATION.

	Cu. Yds.	Total Cu. Yds.
Atlantic Division.		
Wet	14,896,952	
Dry	6,080,009	
		20,976,961
Central Division.		
Wet		
Dry	45,294,800	
		45,294,800
Pacific Division.		
Wet	18,479,233	
Dry	2,421,064	
		20,900,297
Total wet	33,376,185	
Total dry	53,795,873	
		87,172,058
ACCOMPLISHED—OCTOBER 1, 1907, TO OCTOBER 1, 1909.		
Wet	27,842,479	
Dry	42,488,977	
		70,331,456
FILLING DAMS.		
Atlantic Division	4,225,000	
Pacific Division	708,000	
		4,933,000
CONCRETE LAID IN LOCKS, DAMS, AND POWER HOUSES.		
Atlantic Division	59,000	
Pacific Division	2,576	
		61,576

PRISON LABOR.

Recent Instances of its Utilization on Zone Roads and Municipal Work.

The transfer of 70 prisoners from the Culebra penitentiary to the new convict labor camp located on the south side of Gold Hill was effected on Thursday, October 11. The prisoners are employed in the construction of the new Zone road between Empire and Paraiso, and the housing of them in the new stockade will not only obviate the necessity of transporting them back and forth from the penitentiary, but will place them near the work. The convicts are in charge of 17 officers and privates of the Zone police force, five white and 12 colored, who are also quartered at the camp.

The stockade occupies the site of a former European labor camp, and consists of a 14-foot wire fence enclosing about an acre of ground. Inside the enclosure are four buildings, formerly laborers quarters, three of which have been converted into cell houses for the prisoners, and the fourth into a mess hall. The guards occupy two buildings on the outside of the stockade, and have their mess hall in a tent nearby. A wash house and shower baths are provided.

Work on the building of the Empire-Paraiso road was begun in September, starting from the Empire end. The grading between Empire and Culebra, where the highway runs along the edge of Culebra Cut, is about half completed. The remaining half will require an amount of filling that cannot be procured from nearby hillocks, and therefore spoil from the Cut will be dumped into the depressions. It will not be necessary to build a new track for this purpose as a railroad track to the old powder house at Gold Hill parallels the highway. Opposite Culebra the located road turns eastward from the line of the Canal and runs behind Gold Hill, and the prisoners are now at work on this section.

Work by misdismeanant prisoners is in progress on the highway between Las Cascadas and Gorgona. When these two links, and that between Corozal and Pedro Miguel are closed, there will be a continuous highway from Panama to Gorgona, a distance of about 19 miles.

All prisoners able to work are made to do so, most of them on municipal improvements and a few, who are serving terms of a week or ten days, in caring for the police station buildings and grounds at various places. Men sentenced to the penitentiary at Culebra are used principally on highway work, while the majority of those serving short terms for misdemeanors are concentrated in the jails at Gorgona and Empire, and are used on municipal work in the vicinity. The character of the service rendered by the misdemeanants is seen from the following statement of the work of misdemeanant prisoners in October:

Station. *Character of work.*	*Hours at work.*
Ancon, janitor at station and court house ...	1,332
Balboa, janitor, and repairing roads...	2,302
Corozal, janitor, and gardening..............	218
Miraflores, janitor, and gardening...........	208
Pedro Miguel, janitor, and cleaning grounds.	279
Paraiso, janitor and cleaning grounds........	310
Culebra, janitor, and cleaning stables........	620
Empire, janitor, cleaning streets, markets, and grounds..............................	7,848
Las Cascadas, janitor........................	280
Bas Obispo, janitor..........................	248
Gorgona, janitor, and road building from Gorgona to Matachin.......................	4,425
San Pablo, janitor...........................	248
Tabernilla, janitor..........................	522
Gatun, janitor	600
Cristobal, janitor...........................	1,445
Total hours worked........................	20,885

In addition to the routine work noted above the misdemeanants are also called on at times to do municipal work under the direction of the municipal engineering section of the Central Division. In the period from August 1, 1908, to October 1, 1909, they did 101,883 hours of work for this division, the greater part of the time being spent on the highway to Gorgona, and in highway maintenance. These prisoners work under guard, but without ball and chain.

The felons work with ball and chain, and with at least one guard to each ten prisoners. It is said by Central Division officials that the work of the prisoners compares favorably with that of free laborers on the Canal. In the period from August, 1908, to October 1, 1909, these prisoners were engaged in filling in swamps at Lirio, where they worked 25,142 hours; on the highway between Empire and Bas Obispo, 141,616 hours, and on the road from Empire to Paraiso, 2,172 hours. At present all the felon labor is utilized on the Empire-Paraiso highway, where an average of one hundred men worked eight hours a day all during October.

Zone Revenues for October.

The revenue collections in the Canal Zone during the month of October aggregated $7,371.58, derived from the following sources: Distillation licenses, $225.03; other licenses and taxes, $7,146.55. Collections under the head of licenses amounted to $1,163.55, the largest single item being peddlers' licenses aggregating $881. Collections on account of the real estate tax amounted to $398.67; merchandise, $765.65; tobacco, $782.40; soda water, $620, and slaughter tax, $1,141.50. Land and building rents aggregated $1,835.26, and market rents, $329.30.

Work of Zone Police in October.

A special effort was made by the Division of Police and Prisons during the month of October to rid the Canal Zone of idlers, and as a result 37 arrests were made on the charge of vagrancy. This crusade considerably augmented the number of arrests for the month, the total being 606, as compared with 559 in September, an increase of 47. Of the October arrests, 562 were men and 44 were women. The offenses with which they were charged aggregated 53.

The police force numbered 252 men on October 31, including 65 men on special duty, a net increase of eight for the month. The pay rolls amounted to $20,195.06.

There were 17 criminal cases tried in the circuit courts, seven of which were continued; one dismissed, and eight in which convictions were secured. One deserter was returned to his ship. Thirty-eight civil cases were brought to trial, and the sum of $1,141.53 was collected by the marshal in executions.

The Zone convicts numbered 120 on September 30; received during October, 4; discharged, 11; total on October 31, 113. The number of district prisoners on the same date was 153. The prison pay rolls for the month amounted to $1,678.99; cost of prisoners' subsistence, $868.50; value of other property issued, $415.52, a total expense of $2,963.01. The value of work performed by prisoners on Zone roads was $1,646.40.

There were eight deaths from violence during October requiring action by the coroner, three of these being due to railroad accidents, one to accidental drowning, two to electric shocks, and one to a landslide.

There were five deportations of ex-convicts during the month, one to Colombia, one to Peru, one to Jamaica, one to Barbados, and one to Martinique.

Canal Zone Postal Business.

During the month of October the sixteen post-offices of the Canal Zone in which a money order business is done, sold 16,608 orders, aggregating in value $431,421.47. This is an increase of 277 over the number issued in September, and an increase of $13,617.97 in value. Of the October business, $323,721.09 represented orders drawn payable in the United States, $107,386.88 in orders drawn payable in the Canal Zone, and $313.50 in orders drawn payable in Martinique. The amount of fees collected on money orders was $1,871.50, and the average value of orders issued was $25.97. The postal sales amounted to $6,429, of which amount $3,857.40 accrued to the Canal Zone postal system, and $2,571.60 to the Republic of Panama. The revenue from newspaper postage amounted to $12.71.

Notaries Public.

The authorized notaries public in the Canal Zone on November 9, 1909, were as follows:

FIRST JUDICIAL CIRCUIT.

Clerk of the Circuit Court, Ancon.
G. A. Ninas, Executive office, Ancon.
J. St. Clair Hunt, care of Panama railroad, Balboa.

SECOND JUDICIAL CIRCUIT.

Clerk of the Circuit Court, Empire.
J. B. March, District Judge, Gorgona.
H. S. Farish, Chief Quartermaster's office, Culebra.
J. H. Helmer, Examiner of Accounts' office, Empire.
C. B. Sexton, Gorgona Storehouse, Gorgona.
W. E. Tragsdorf, Chairman's office, Culebra.
F. X. Ward, Claim officer, Empire.
C. R. Williams, Examiner of Accounts' office, Empire.

THIRD JUDICIAL CIRCUIT.

Clerk of the Circuit Court, Cristobal.
M. C. Rerdell, Senior District Judge, Cristobal.
T. E. Brown, District Judge, Cristobal.
V. M. Claybourne, care of Drydock, Cristobal.
J. J. Jackson, care of Quartermaster's Department, Cristobal.
Frank Floyd, Commissary Department, Cristobal.
L. L. Gilkey, care of Drydock, Cristobal.
J. J. Luckey, care of Atlantic Division, Gatun.
Samuel Polack, care of Atlantic Division, Gatun.
Dan St. Clair, Division Engineer's office, Gatun.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Hotel Tivoli, Ancon, C. Z., on Sunday, November 21, 1909, at 7.15 p. m. The program follows:

1 March—*With Sword and Lance*............Starke
2 Selection—*The Midnight Sons*............Hubbell
(By request.)
3 Waltz—*Donau Wellen*....................Ivanovici
4 { *a* *Pigeon Wing Rag*....................Johnson
{ *b* March—*My Own United States*......Edwards
(By request.)
5 Overture—*Light Cavalry*....................Suppe
6 *Simple Aven*................................Thome
7 Medley Selection—*The Glittering Glow Worm*...................................La Farge
Introducing "Sambo," "If I Had a Thousand Lives to Live," "I've Lost My Teddy Bear," "I Am Longing for Some One to Love Me," "The Glow Worm," "Ada, My Sweet Potater," "Henry's Barn Dance," and "The Big Red Shawl."
8 Suite de Ballet—*Antony and Cleopatra*.Gruenwald
9 Patrol—*American*......................Meacham
10 Selection—*Maritana*........... ....Wallace
11 March—*Semper Fidelis*......................Sousa
(By request.)

CHAS. E. JENNINGS, *Musical Director*.

A concert will be given at Empire on Sunday, November 28.

WORK IN GATUN LAKE REGION.

Contracts Made for Small Portions of the Work—Steam Shovel and Hand Excavation—French Machinery.

Contracts have been made for the excavation in the Canal prism of several small portions of earth that rise above the 40-foot level of the bottom of Gatun Lake, north of Barbacoas Bridge. The amount to be excavated is 160,947 cubic yards and the total price is $53,601.53, an average of 33.3 cents a cubic yard. Thirteen persons bid on one or more of the sections and eight of these bid on all the work. The contracts were awarded as follows:

Sections A, C, and E—Section A consists of approximately 33,000 cubic yards of earth. Section C consists of two small parcels, one containing approximately 1,529 cubic yards of earth, and the other containing approximately 1,102 cubic yards of earth. Section E consists of two parcels, one containing approximately 39,950 cubic yards of earth, and the other containing approximately 2,447 cubic yards of earth. The contract for these sections has been awarded to Roy W. Hebard: Section A at 25 cents a cubic yard, Section C at 28 cents a cubic yard, Section E at 25 cents a cubic yard; total yardage, 78,028; total cost, $19,585.93.

Section B—This section consists of two parcels, one containing approximately 70,000 cubic yards, of which it is estimated that 70 per cent is soft rock, and 30 per cent is earth, and the other containing approximately 1,213 cubic yards of earth. The contract for this section has been awarded to Mason E. Mitchell at 47.875 cents a cubic yard for rock, and 31.66 cents a cubic yard for earth; total yardage, 71,213; total cost, $30,511.64.

Section D—This section contains approximately 9,092 cubic yards of earth, and the contract was awarded to A. Balderacch at 30 cents a cubic yard, the total being $2,727.60.

Section F—This section consists of five small parcels in the town of Bohio, containing in all 2,614 cubic yards. The contract has been awarded to Earle C. McFarland at 29.70 cents a cubic yard, the total cost being $776.36.

Although bids were not asked for on the whole of the excavation, Roy W. Hebard submitted a bid for it at 35 cents a cubic yard. The total cost at this rate would have been $56,331.45, or $2,729.92 more than the total cost under the contracts made for the various sections.

Steam Shovel and Task Work.

The steam shovel that was set at work early in September excavating a small hill in the Canal prism at Bohio was withdrawn on November 10, after having dug out about 30,000 cubic yards of earth and rock, which was taken to Gatun and dumped on the toes of the Dam. This finishes the steam shovel work at Bohio on the right bank of the Chagres River, and the shovel will be set at work on the excavation at Tabernilla. At Tabernilla the steam shovel work includes 360,000 cubic yards, composing a long low ridge that rises not more than eight feet above the bottom of the Canal.

At Buena Vista the steam shovel was also withdrawn on November 10, after having been at work since the first week in July, and taken out over 150,000 cubic yards of material, two-fifths of which was rock. This work was merely to take off the toes of two hills that extended into the Canal prism. This spoil also was dumped on the toes of Gatun Dam.

Both parcels of excavation that were completed on November 10 are on the right bank of the Chagres River. There yet remain to be excavated on the left bank of the river at Bohio and Buena Vista 335,000 cubic yards of material. This will be taken out by steam shovel and dumped on Gatun Dam. In order to get the shovel into the excavation it will be necessary to bridge the river at or near Bohio, and this will not be done until the end of the rainy season, probably in January.

The hand excavation at Bohio and at Peña Blanca, about three-fourths of a mile north of the village, was also completed in the week of November 10. This work was done by the "task" system, that is, the laborers were paid 9 cents a car for each Decauville car of 18 cubic feet capacity that they loaded and dumped. The cars and track were furnished by the Commission, and were picked up around Bohio where a large number of them had been left by the French when work was abandoned in 1888. All blasting of hard material was also done by the Commission, and all the work was under the direction of the Central Division. The spoil was dumped in the old diversion channels or the bed of the river. At Bohio 37,000 cubic yards of material were excavated by this method and at Peña Blanca 10,000 cubic yards.

Old French Materials.

On both banks of the river at Bohio is a large quantity of old machinery and equipment left by the French, and the tracks built for the steam shovel work will be utilized, as they now are, to draw out this material to the main line of the Panama railroad to be sent to various points along the Canal, or to Cristobal for shipment to the States. In one of the old diversion channels just north of Bohio two cranes have been found that will be taken out and sent to Gatun where they will be utilized in the work on the locks. These cranes have thirty-foot stiff booms, and on account of having been housed over and well coated with paint are in good condition. About three thousand feet of track will be built to the place where they are lying, and they will be lifted onto flat cars, as the gage of their trucks is too narrow for use over the Panama railroad.

OPENING OF BASEBALL SEASON FOR 1909-10.

At the meeting of the Isthmian Baseball League held at Culebra on October 31, officers were elected for the ensuing year and arrangements were made for the coming season. The new officers are: H. H. Rousseau, president; Dr. W. E. Deeks, vice-president; Milton S. Hathaway, secretary and treasurer; D. E. Hayes, official scorer. An executive committee was appointed by the president, consisting of Dr. J. C. Perry of Ancon, Edward J. Williams of Empire, and W. Taylor of Gorgona.

It was decided that the season of 1909-10 should open on Thanksgiving Day, November 25, and that a 30-game schedule should be played, the season terminating with the games on Decoration Day, May 30. The league will consist of the Ancon, Empire and Gorgona teams, which were members last year, and a team from the United States Marine Corps at Camp Elliott, which takes the place of the M. P. & M. team.

It was further decided to prohibit engagement of professional players temporarily on the Isthmus, and that any club found violating this rule shall be subject to a fine of $25. In the matter of the transfer of players between the Isthmian and the Atlantic leagues, it has been agreed that such transfers can be made only on the express consent of the management of the teams interested.

The executive committee met on November 14 and adopted a schedule of games for the season. The opening games on Thanksgiving Day will be played at the Ancon and Gorgona parks; at the former place between the Ancon and Empire teams, and at Gorgona between the Gorgona team and the Marines. There will be Sunday games at two of the three parks on every Sunday during the season, with the exception of December 26 and January 2, when the holiday games will be substituted. There will be games at Ancon park on all of the five holidays during the season. The official schedule follows:

DATE.	Ancon.	Empire.	Gorgona.	No. of Games.
November 25, 1909	Ancon-Empire		Gorgona-Marines	1
November 28		Empire-Marines	Gorgona-Ancon	2
December 5	Ancon-Marines	Empire-Gorgona		3
December 12	Ancon-Marines		Gorgona-Empire	4
December 19		Empire-Ancon	Gorgona-Marines	5
December 25	Ancon-Gorgona	Empire-Marines		6
January 1, 1910	Ancon-Empire		Gorgona-Marines	7
January 9		Empire-Marines	Gorgona-Ancon	8
January 16	Ancon-Marines	Empire-Gorgona		9
January 23	Ancon-Marines		Gorgona-Empire	10
January 30		Empire-Ancon	Gorgona-Marines	11
February 6	Ancon-Gorgona	Empire-Marines		12
February 13	Ancon-Empire		Gorgona-Marines	13
February 20		Empire-Marines	Gorgona-Ancon	14
February 22	Ancon-Marines	Empire-Gorgona		15
February 27	Ancon-Marines		Gorgona-Empire	16
March 6		Empire-Ancon	Gorgona-Marines	17
March 13	Ancon-Gorgona	Empire-Marines		18
March 20	Ancon-Empire		Gorgona-Marines	19
March 27		Empire-Marines	Gorgona-Ancon	20
April 3	Ancon-Marines	Empire-Gorgona		21
April 10	Ancon-Marines		Gorgona-Empire	22
April 17		Empire-Ancon	Gorgona-Marines	23
April 24	Ancon-Gorgona	Empire-Marines		24
May 1	Ancon-Empire		Gorgona-Marines	25
May 8		Empire-Marines	Gorgona-Ancon	26
May 15	Ancon-Marines	Empire-Gorgona		27
May 22	Ancon-Marines		Gorgona-Empire	28
May 29		Empire-Ancon	Gorgona-Marines	29
May 30	Ancon-Gorgona	Empire-Marines		30

FRESHET IN THE CHAGRES.

Widespread Rainfall of November 11-12 Causes Unusual Rise in the River.

While not a record breaking rainfall in any sense, the rains of November 11 and 12 were so universal on the Isthmus that they caused an unusual freshet in the Chagres River, the highest in four months. It caused little inconvenience to the Canal work, as ample warning of its approach had been given.

There are two river observing stations on the upper Chagres, one at Vigia, about 22 miles above the beginning of Culebra Cut at Bas Obispo, and one at Alhajuela halfway between these two points. An automatic river gage is located at Vigia, and a Spaniard who cannot speak English lives alone in a native hut maintained by the Commission as a house for the watcher. At Alhajuela an American experienced in river hydraulics is in charge of the station, at which there is a complete river-gaging outfit. When the water rises above a certain stage a float rising with it completes an electric circuit, and a bell rings in the observer's house. From that moment until the water has subsided the observer keeps the central office at Culebra informed by telephone of the progress of the freshet. Twice a month some one from the central office makes an inspection, but otherwise the watchers are quite free from supervision. Yet on their vigilance depends uninterrupted work in Culebra Cut at Bas Obispo, and in the spillway of Gatun Dam.

The first warnings of the freshet of November 11-12 were received at the central office on the afternoon of the 11th, and they were continued all that night until the crest of the flood passed Alhajuela at 5 o'clock on the morning of the 12th. It reached 102 feet above sea level, a total rise of 7.1 feet. By the system of predicting that has grown up with the accumulation of data on the regimen of the Chagres, the office at Culebra was able to keep the Central Division officials at Bas Obispo informed of the progress of the freshet and the height it would probably reach when the crest passed Culebra Cut at Bas Obispo. At 3 o'clock on the morning of the 12th it was predicted that the rise at Gamboa (Bas Obispo) would not reach a point over 64 feet above sea level, which is one foot lower than the top of the dike between the river channel and the entrance to Culebra Cut. At 8 o'clock in the morning the river was at 62.5 feet above sea level at Gamboa; at 11 a. m., it had risen to elevation 63.50, and at 1.30 p.m., the crest was at elevation 64 feet, as had been predicted.

Since 1885, according to French and American records, there have been 27 freshets whose crests at Gamboa have risen above the 67-foot stage, and many more that have been as high as that of November 11-12. A comparison of this most recent rise with some others at Gamboa since the high water of December 6, 1906, follows:

	Feet Above Sea Level.
December 6, 1906	81.60
January 29, 1909	66.60
June 15, 1909	67.40
November 12, 1909	64.00

At 11 o'clock on the morning of the 12th warning was given the Atlantic Division that the river would probably rise to elevation 15 feet above sea level at Gatun by 9 o'clock that night, on account of the floods in the upper Chagres valley. No advices had been received from the Trinidad and Gatun Rivers but it was believed that, on account of the rainfall throughout the whole drainage area, an addition of from 1½ to 2 feet of water might be expected from those two rivers, which flow into the Chagres near Gatun. At 8 o'clock on the morning of the 13th the crest of the flood passed Gatun and was 16.30 feet above sea level. The accuracy of prediction may be seen from the following table:

STAGES OF CHAGRES RIVER.
(Freshet of November 12-13, 1909).

STATION.	START.		CREST.	
	Time.	Height.	Time.	Height.
Alhajuela	3.30 p.m., 11th	94.9	5 a. m., 12th	102 1
Gamboa	2 p. m., 11th	49.3	1 p. m., 12th	64.0
Bohio	5 p. m., 11th	8.2	1 a. m., 13th	26.7
Gatun Canal	6 p. m., 11th	4.0	10 a. m., 13th	16.3
Gatun West Diversion	6 p. m., 11th	3.0	10 a. m., 13th	13.5

PREDICTION.

STATION.	ACTUAL.		PREDICTED.		Prediction made.
	Time.	Height.	Time.	Height.	
Gamboa	11th. 7 p. m.	51.95	11th. 7 p. m.	52.0	11th. 4 p. m.
Gamboa	12th. 1 a. m.	56.20	12th. 1 a. m.	56.0	9 p. m.
Gamboa	9 a. m.	60.50	9 a. m.	64.0	12th. 3 a. m.
Gatun Canal	9 p. m.	14.70	9 p. m.	15.0	*11 a.m.

*With a possible rise to 17.0 feet later owing to local conditions.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight Saturday, November 13, 1909.

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft.	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Nov. 7	127.2	93.8	49.3	11.2	6.4	5.4
Monday, Nov. 8	127.5	94.0	50.7	10.3	5.2	4.5
Tuesday, Nov. 9	126.8	93.7	48.8	8.8	5.0	4.2
Wednesday, Nov. 10	128.8	94.9	49.6	7.7	3.4	2.8
Thursday, Nov. 11	135.8	99.6	55.0	13.0	5.7	4.9
Friday, Nov. 12	139.5	102.1	64.0	26.7	15.6	12.7
Saturday, Nov. 13	129.9	95.6	57.6	26.7	16.3	13.5

Wet Weather Incidents.

During the rain of November 12 the three reciprocating pumps at the Culebra Cut pumping station at Bas Obispo ceased working and the water in the Cut rose so high that the steam shovel in the lowest level was obliged to suspend work. The pumps did not resume work until the following day.

At Mamei the steam shovel working along the bank of the Chagres was obliged, by high water, to suspend work for several hours.

Obituary.

G. I. Hawley, who had been employed on the Canal work during a period of four years, and recently had been stationed at Porto Bello, died at Colon Hospital on November 9, after an illness of six days. He was a native of Maine, and was 48 years of age. His wife, who is living in Jacksonville, Fla., survives him.

A coal barge to be used in Cristobal harbor in serving steamers and men-of-war with coal has been ordered in the States by the Panama Railroad Company. It has a capacity of 250 tons, and the deck panels are removable, making it possible to wheel coal from the deck of the barge directly into the side ports of a ship.

PERSONAL.

Capt. Courtland Nixon, Depot Quartermaster, returned from his annual leave of absence in the States, on the Hamburg American steamship *Prince Joachim*, which arrived at Colon, Monday, November 15.

Judge Wesley M. Owen, accompanied by Mrs. Owen and their children, sailed for the States on the *Turrialba* on November 9.

Church Work.

At the annual meeting on the afternoon of November 1, the Woman's Guild of St. Luke's Church, Ancon, elected the following officers: President, Miss J. Macklin Beattie; vice-president, Mrs. H. B. Bryan; secretary, Miss Wilhelmina Bryan; treasurer, Miss Ethel Mason.

The "X. Y. Z." club has been organized by a number of the girls who attend St. Luke's Church in Ancon for the purpose of bringing the younger girls of the congregation together in social, educational, and charitable work. Reading, cooking lessons, and sewing for the poor will occupy the time of the children at the meetings, which will be held at the homes of members the second and fourth Monday of each month.

The Christian League of Las Cascadas was organized on October 20, with the following officers: President, S. H. Bryan; vice-president, J. E. Albrecht; secretary and treasurer, F. W. Lydecker; executive council to consist of the officers, and A. B. Conlan and F. L. Strobridge. A regular preaching service will be held in the Commission chapel each Sunday afternoon at 3.30 o'clock, and Sunday school will meet at 10.30 o'clock each Sunday morning. Rev. Carl Elliott is the minister in charge.

A musical was held in the Union Church at Cristobal on the night of October 29, under the auspices of the Ladies' Aid Society of the Church. The program included vocal music by a sextet composed of Madams Riddle, J. A. Smith, P. G. Baker, Larson, Jennings, and Diez; vocal duet by the Misses Butler, vocal solos by Messrs. Bennyhoff and Sales, and Madams Riddle and Diez; violin solos by Mr. Thompson; accompaniment by Madams Ullrich and Andrews. Refreshments were served after the concert.

Warning.

CULEBRA, C. Z., November 1, 1909.

Any employe of the Isthmian Canal Commission or of the Panama Railroad Company who attempts to transfer or otherwise dispose of an official request for half-rate transportation on the Panama railroad, issued for the use of himself or a member of his family, or who attempts to transfer or otherwise dispose of a half-rate ticket or tickets purchased upon such request, will be immediately dismissed from the service.

Any attempt on the part of a nonemploye to purchase a half-rate ticket upon an official request for half-rate transportation on the Panama railroad, issued to an employe of the Isthmian Canal Commission or of the Panama Railroad Company, for the use of himself or a member of his family, or any attempt to use a half-rate ticket purchased upon such request, is a misdemeanor, punishable by fine or imprisonment.

H. F. HODGES,
Acting Chairman, Isthmian Canal Commission,
Second Vice-president, Panama Railroad Company.

LOST—Canal medal No. 309, either in Cristobal, Colon, or Mount Hope. Finder will please return same to C. L. Van Zant, Mount Hope storehouse.

IMPROVEMENTS IN COLON.

Filling of Low Sections and Additions to the Drainage System.

The greater portion of the sum of $800,000 appropriated by Congress for sanitary improvement in the cities of Panama and Colon will, according to present plans, be expended in Colon. The area of operations involving expenditures from this fund comprises twenty city blocks, as follows: From D street to G street, and from Second street to Ninth street, fourteen blocks; from D street to E street, and from Ninth street to Fourteenth street, five blocks; from E street to G street, and from Ninth street to Tenth street, one block. In addition, the Panama Railroad Company proposes to fill in and otherwise improve at its own expense the district bounded by G street, Tenth street and Folks River. E street will be extended from Tenth street to Fourteenth street, a distance of four blocks, and the Panama Railroad Company will bear a portion of the street improvement cost, in the furtherance of its plan to establish a wholesale district in this locality.

That portion of the district from D street to G street, bounded by Second street and Ninth street, and from D street to E street, bounded by Ninth street and Fourteenth street, will be filled in, and the elevation of the center line of E street, from Third street to Fourteenth street, has been placed at reference plus 8. The district from Second street to Fourteenth street on the north and south, and from E street to Bolivar street on the east and west will drain into the D street storm sewer, and from E street east the general direction of the drainage will be toward the bay.

The elevation of eight feet above sea level will permit the filling in of the G street canal, and in case the island east of E street is improved at some future time, the whole of this territory will drain into the bay, either from the surface of the streets, or through storm sewers under the streets on a grade of two-tenths of a foot fall in 100 feet. The elevation of the town on the east side of the island will then be approximately 2½ feet above mean sea level.

The proposed sewer system has been designed to drain into the present sump, which is of sufficient capacity to take care of the additional sewage. At present the force main from the sump empties into the G street canal, and it will be necessary to continue this main from the canal to the bay, a distance of 2,400 feet. The sewer system will have the lowest practicable grade—five-tenths of a foot fall in 100 feet. The water system to be installed will provide increased fire protection in the new section of the city, and will also take care of extensions for some time to come. The plans call for concreting the alleyways in the six larger blocks, instead of macadamizing them.

The cost of the work as originally estimated was as follows:

Total fill in streets, 292,891.50 cubic yards at 50 cents per cubic yard	$146,445.75
Extension of sewer system	29,554 61
Extension of force main from sewage pumping station	4,800.00
Extension of water system	32,085.30
Street improvements, macadamizing, etc.	161,196.68
Improvement of beach road	10,000.00
Total	$384,082.34

Since the plans were prepared some changes have been made entailing a small additional cost, as follows:

Increasing width of macadam on E street to facilitate carload delivery in proposed wholesale district	$4,000.00
Improvements in block bounded by Ninth, Tenth, E and G streets	8,000.00
Filling space east of G street and north of Third street	2,000.00
Reducing width of sidewalk on E street to 15 feet and adding 5 feet to the parks on either side of the E street track (no expense attached).	
Omission of open drains in the new district and the substitution of a system of underground drains into the D street ditch	5,637.00
Increasing thickness of concrete in alleyways to 6 inches	2,000.00
Totol	$21,637.00

The estimated grand total of cost chargeable to the appropriation is $405,719.34, but this does not take into account the converting of the D street ditch into a closed sewer. The report of the committee appointed to consider this project was published in THE CANAL RECORD of August 18, 1909. It recommended the construction of a closed sewer at an estimated cost of $125,000.

The total fill on private property, the expense of which is to be borne by the property owners of Colon, is estimated at 447,940.20 cubic yards, and the cost at 50 cents per cubic yard, would be $223,970.10.

The total fill which the Panama Railroad Company proposes to make in its improvement of the district bounded by Tenth street, G street and Folks River, is estimated at 600,000 cubic yards, and the cost $300,000. The installation of sewer and water systems in this district will cost $6,581.75 additional.

Recapitulated, the total estimated cost of the proposed improvements to be made in the city of Colon is as follows:

Expense, chargeable to appropriation, not including D street sewer	$405,719.34
Expense of closed sewer on D street	125,000.00
Expense to Panama Railroad Company	306,581.75
Expense to property owners	223,970.10
Total	$1,061,271.19

The greater part of the work, outside the D street sewer project, is the filling in of the low area, and this will occupy all of the coming dry season and probably the major portion of the ensuing year. The fill will be accomplished hydraulically, that is, by pumping coral sand from the bottom of the bay and carrying it by means of pipes to the section to be filled in.

An 18-inch suction dredge will be employed in this work. The machinery for this dredge is on order in the States, and it will be mounted on the hull of an old French ladder dredge taken from the banks of the Chagres near Frijoles last year and now at the Cristobal marine shops. After the filling in Colon has been accomplished this dredge will be used in excavating in the prism in the Canal between Gatun Locks and the hills at Mindi.

Reward

Of $100, silver, is offered by the Government of the Canal Zone for information leading to the arrest and conviction of the person or persons guilty of the attempt to injure or damage the equipment of the Commission by placing dynamite on the railroad tracks leading from the Cut to the main line of the Panama Railroad between Bridges 53 and 54 just north of Las Cascadas, and under Steam Shovel No. 229 in the same vicinity, on the night of November 3, 1909.

Any information should be communicated promptly to the nearest Zone police station.

G. A. PORTER, *Chief of Police.*

Approved:
H. H. ROUSSEAU,
Acting Head of Department of Civil Administration.
ANCON, C. Z., November 11, 1909.

SOCIAL LIFE OF THE ZONE.

Women's Clubs.

The Cristobal Woman's Club gave a reception at the Commission clubhouse on the afternoon of Friday, November 12, in honor of the president, Mrs. Hiram J. Slifer, who retired from office on her departure from the Isthmus on November 16. Addresses were made by Mrs. Slifer, Mrs. Lorin C. Collins, and Mrs. Thomas E. Brown, Jr. There was informal music by Mrs. Diers, Mrs. Ullrich, and the Cecilian Ladies' Chorus. The clubroom was decorated and refreshments were served. Mrs. Slifer has been prominently connected with the Cristobal club during her residence in Colon. In 1908, and part of 1909, she was second vice-president and was elected president in May, 1909. In 1908, Mrs. Slifer was elected fourth vice-president of the Canal Zone Federation of Women's Clubs and she was also chairman of the home committee of that organization.

At the meeting of the Cristobal Woman's Club on October 27, Mrs. Lorin C. Collins read a paper on "Public Opinion." At the literary meeting on November 4, Mrs. P. T. Murphy read a paper on "Pure Food Laws." The educational department announces a paper on "How to Keep Well in the Tropics," by Col. W. C. Gorgas, on Wednesday, November 17. Lieut.-Col. C. A. Devol, will speak on "Red Cross Relief Work in San Francisco" at the meeting on December 1. Club women and others interested are invited to attend these meetings. The home department has completed arrangements for a Christmas bazaar, to be held in the clubhouse on the afternoon and evening of December 15. Fancy work and cakes will be on sale.

At the meeting of the Gorgona Woman's Club on Thursday, November 4, the following were appointed chairmen of the four departments into which the club is divided: Mrs. A. J. Sweet, home; Mrs. W. H. McCann, art; Mrs. C. H. Toberer, literature; Mrs. George Wright, philanthropy. An entertainment committee was also appointed, composed of Mrs. E. S. Calvit, Mrs. Sweet, and Mrs. Toberer. Meetings are held weekly, on Thursdays; the first, second, and fourth meetings are in charge of the home, art and literary departments, respectively, and are held at the homes of members, as arranged by the entertainment committee. On the third Thursday a business meeting is held at the Commission clubhouse. At each business meeting the program for the following month is announced. The philanthropy department has been instructed to collect literature for the Culebra penitentiary. The club will arrange classes for the study of parliamentary law. The officers are Mrs. D. E. Hayes, president; Mrs. C. H. Toberer, vice-president; Mrs. E. S. Calvit, secretary, and Mrs. A. J. Sweet, treasurer.

The Recreation Hall at Corozal is completed and will be opened to the public on Thanksgiving morning at 10 o'clock. Rev. Carl H. Elliott of Cristobal will speak. The public is cordially invited to attend. The residents of Corozal have subscribed for the purchase of a piano for use in the hall. This has been ordered through the Sunday school, and it is expected that it will be on the Isthmus the first week in December.

Preparations for the Thanksgiving dance to be given by the Paraiso chapter of the Canal Zone Red Cross are about completed. There will be a special train from Balboa,

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

The week, November 14 to 20, is being observed in the Y. M. C. As. throughout the world as the "Week of Prayer." Each Y. M. C. A. in the Canal Zone is holding short services this week.

The next entertainers from the States, Mr. and Mrs. Edward H. Kemp, will arrive here November 22 and will give two lectures in each clubhouse. These lectures consist of "Tales of the Wild," illustrated by slides, moving pictures and scenic effects, depicting the life, customs and manners of the Sioux and Hopi Indians. The following are the dates of the lectures:

Cristobal—"Siouxland" on Wednesday evening, November 24, and "Hopiland" on Wednesday evening, December 1.

Gorgona—"Siouxland" on Tuesday evening, November 30, and "Hopiland" on Tuesday evening, December 7.

Empire—"Siouxland" on Thursday evening, November 25, and "Hopiland" on Thursday evening, December 2.

Culebra—"Siouxland" on Friday evening, November 26, and "Hopiland" on Friday evening, December 3.

CULEBRA.

A "stunt" party was held Friday evening in the gymnasium. The time was utilized by singing old college songs and popular selections. A special number entitled "Down in the Ditch" was given by Mr. Fitzgerald. The male quartet also gave a few selections. At the close Mr. Goodman read several original poems.

A meeting of all interested in photography will be called Friday night, November 19 at 7.30 to organize and to elect officers.

Mr. F. E. Stearns won the final round of the "knockout" chess tournament. The final local chess tournament for the Baxley Medal will begin Monday night. The winner of this tournament will be the permanent holder of the medal.

EMPIRE.

The world's "Week of Prayer" for young men, under the auspices of the Y. M. C. As. of the world, is being observed. A special service was held at the I. C. C. chapel last Sunday evening, while a short informal meeting is being held at the Y. M. C. A. clubhouse every evening from 7.15 to 7.45, to which men only are invited. These meetings are held under the leadership of various members and friends of the Association.

On Monday evening of this week a glee club was organized in connection with the Empire Association. Plans were formulated for an entertainment to be given soon.

Work on the dark room has been started and will probably be finished this week. The Camera Club is planning for an exhibit. The club held a meeting on Wednesday evening of this week. Applications for membership can be secured at the Secretary's office.

All members at Empire, whose fees are due, and who are not in position to make immediate payment, are requested to secure a special ticket from the Secretary. The Empire membership on November 1 was 310, showing an increase. All members are requested to cooperate in securing new members.

The Bible Class is taking up Prof. Jenks' "Social Significance of the Teachings of Jesus". The class meets Thursdays from 7 to 8 p. m. All men are welcome.

The Hagy Scenic Company gave a moving picture entertainment on November 11, including a reproduction of portions of "Parsifal".

Thirty-one new books were added to the library last week.

GORGONA.

The Chess Club met November 12 and elected Strong, president, and Nagle, vice-president and secretary. A local tournament will begin Friday, November 19.

Old copies of technical magazines are on sale to the highest bidder. These must be sold before November 20. For further particulars inquire of the Secretary at Gorgona.

The following committees were organized at the clubhouse Wednesday, November 10 to prepare for a Christmas entertainment: Purchasing, Stevens, Mitchell and Smith; Finance, Boyd, Mrs. Calvit, Miss O'Connor, Mrs. Toberer, Mrs. Sweet; Program, Misses O'Connor, Anderson, Cage, Heinie, Morrow, and Mrs. Calvit. A decoration committee will be appointed later. The cantata, 'Santa Claus' Reception" will be given at the entertainment, Friday evening, December 24. Each child will receive a stocking of candy. The various fraternal organizations will cooperate.

The following men have enrolled for the Thanksgiving Day bowling tournment at Cristobal: Otis, MacConaughey, Roper, Buchanan, Hinckley, Humphrey and Cran.

A Bible study club will be organized within the next few days.

The boys' schedule of hours is as follows: Mondays and Wednesdays 3 to 5 p. m.; Saturdays 9 to 11 a. m.

On Saturday, November 27, the orchestra from the *Prinz August Wilhelm* will give a concert at Gorgona.

CRISTOBAL.

On Wednesday evening, November 17, a fencing class will be organized. Mr. McSparren will be the instructor.

On Friday night of this week at 8.30 there will be a basket ball game between the Y. M. C. A. team, and a team representing the Lincoln House. On Saturday night the Y. M. C. A. team will play indoor baseball at Gorgona.

There will be an orchestra concert in the game room on Monday evening, November 15.

BOWLING TOURNAMENT CONTESTS.

The bowling tournament games played at Culebra Saturday night between Cristobal and Culebra resulted as follows:

Culebra.	*First.*	*Second.*	*Third.*	*Totals.*
Lamster	188	185	200	573
Vogel	166	172	177	515
Winters	165	168	127	460
Edwards	153	159	150	462
Dougherty	189	181	168	538
Total	861	865	822	2,548
Cristobal.				
Bullard	142	116	134	392
Burns	144	119	147	410
Collins	127	156	167	450
Strong	175	137	185	497
Barte	160	169	186	515
Total	748	697	819	2,264

The last home game of the present bowling tournament, played last Saturday night at Empire, resulted as follows:

Empire.	*First.*	*Second.*	*Third.*	*Totals.*
Brown	180	165	124	469
Potter	175	170	202	547
Gorham	147	156	164	467
Hinckley	176	196	173	545
Huson	179	175	206	560
Total	857	862	869	2,588
Gorgona.				
Otis	157	154	176	487
MacConaughey	138	102	....	240
Catlin	...	....	135	135
Hayes	135	157	168	460
Haldeman	137	152	170	459
Buchanan	154	125	149	428
Total	721	690	798	2,209

The Empire team will play at Gorgona on November 20.

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal, Colon, and Balhoa during the week ending November 13, 1909, with supplies for the Isthmian Canal Commission:

Sarnia, November 9, from New York, with 3,000 gallons cylinder oil, for stock, and 2,145 bales hay, for corrals.

Cristobal; November 10, from New York, with 10,981 barrels cement; 25 tons air compressor parts, for Atlantic Division; 43,396 bags cement for Pacific Division; 56 tons castings, for steam shovel repairs; 116 tons structural material, for Miraflores; 8 tons dredge castings, for Balboa; 80 tons locomotive tires, for Gorgona, and 1,840 bales hay, for corrals.

Colon, November 10, from New York, with 41 tons bar iron, 1,000 cases lubricating oil, 100 bundles claw bars, 167 bundles lining bars, 23 cases electric fuses, 150 rail tongs, 80 tons wrought pipe, and 450 bundles brooms, for stock; 10 dipper lips, for steam shovels; 39 tons car castings, for Gorgona, and 320 tons structural material, for Miraflores and Gatun; and a miscellaneous cargo consisting of 7,213 packages weighing 975 tons.

Abangarez, November 11, from New Orleans, with 262 piling, for Gatun; 442 crates fire brick, for Gorgona; 2,299 bales hay, for corrals; 165 bales cotton waste, for stock, and 235 tons dump car material, for Porto Bello.

Eastwood, November 12, from Gulfport, with 2,000 cases gasoline, and 356,779 feet yellow pine lumber, for stock.

Newport (Port of Balboa), November 8, from San Francisco, with 16 bales rubber sleeves, for dredges.

Strathgyle (Port of Balboa), November 10, from Puget Sound, with 16,988 feet fir lumber, for floating equipment; 343,595 feet fir lumber, for Gatun, and 2,159,744 feet fir lumber, for Miraflores.

LOST—On October 31, between Panama and Cristobal, a Masonic watch charm with diamond setting. The finder will please return to the Secretary of the Y. M. C. A. at Cristobal.

OFFICIAL CIRCULARS.

Appointment and Reappointment.

CULEBRA, C. Z., November 10, 1909.

CIRCULAR NO. 229-D:

The paragraph on Page 13 of Circular No. 229-A Revised, reading:

"New employes shall be entered on the rolls at the lowest rate of pay authorized for the class of work which they are to perform, except when regularly transferred," is hereby amended to read as follows:

Upon first appointment, or upon reappointment after a break in service, employes shall be entered on the rolls at the lowest rate of pay authorized for the class of work which they are to perform, provided that an employe may be regularly transferred from one department or division to another without reduction; and provided further, that an employe absent for not more than thirty days, with the prior consent of competent authority in his department or division, may be reinstated at his former rate of pay.

GEO. W. GOETHALS, *Chairman.*

Salary on Temporary Assignment.

CULEBRA, C. Z., November 8, 1909

CIRCULAR NO. 291:

An employe temporarily assigned to perform the duties of a man in a higher grade who is absent on vacation leave *with pay*, or on sick leave *with pay*, shall not be allowed the salary of the higher position, except that an artisan on an hourly basis, temporarily performing the duties of a foreman, may be transferred to the monthly basis with foreman's pay to avoid excessive overtime.

When an employe is absent *without pay* for more than thirty days, the substitute assigned to perform his duties may be paid the usual entrance salary of the position during such temporary assignment.

GEO. W. GOETHALS, *Chairman.*

Thanksgiving Day.

CULEBRA, C. Z., November 10, 1909.

CIRCULAR NO. 292:

Thanksgiving Day, Thursday, November 25, 1909, will be observed as a holiday in the Canal Zone, and as far as practicable, all public business will be suspended on that day.

GEO. W. GOETHALS. *Chairman.*

Board of Local Inspectors.

CULEBRA, C. Z., November 13, 1909.

Mr. W. G. Comber, Chairman, Balboa. C. Z: Mr. James Macfarlane, member, Balboa, C. Z.: Mr. Louis Untermannn, member, Cristobal, C. Z., Board of Local Inspectors:

Gentlemen—Under authority conferred upon me by Executive Order of the President, No. 1131, dated October 2, 1909, copy of which is enclosed, you are hereby appointed members of the Board of Local Inspectors, for the performance of the duties prescribed therein.

I desire to have the Board prepare and submit to me for approval draft of the rules and regulations which shall govern in the performance of its duties. These regulations and rules should include, among other things, a statement giving the general scope of examinations for masters, mates, engineers and pilots of steam vessels; rules governing the meetings of your Board; specimens of forms to be used by your Board in the examination of applicants for, and by the Head of Department of Civil Administration in the issue of, licenses. To assist you in the preparation of these rules, etc., there are being forwarded to Mr. Comber, under separate cover, copies of rules, regulations, and forms in effect for boards of local inspectors in the United States Steamboat Inspection Service. An accurate and systematic record of all the acts and doings of your Board should be kept. There is also enclosed herewith copy of Executive Order of the Governor of the Canal Zone, dated December 9, 1905, which, insofar as it provides for the examination and licensing of pilots, is amended by Executive Order No. 1131.

Any employes of the Canal Commission and Panama railroad, effected by Executive Order No. 1131, who do not, at present, hold United States licenses, should be examined and proper action taken, as soon as possible. List of such employes will be furnished to you by my office.

GEO W. GOETHALS,
Chairman and Chief Engineer.

Proposals for Erecting Commission Buildings

Sealed proposals for labor only will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., November 25, 1909, and then opened, for the erection by contract of a recreation hall and a commissary building at Porto Bello. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $200 when the contract is signed.

C. A. DEVOL,
Chief Quartermaster.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning November 12:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	27
Chops	per lb	29
Cutlets	per lb	29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	4
Soup	per lb	6
Stew	per lb	10
Corned	per lb., 12, 14,	16
Chuck roast	per lb	14
Pot roast	per lb	16
Rib-roast, second cut (not under 3½ pounds)	per lb	19
Rib-roast, first cut (not under 3 pounds)	per lb	21
Sirloin roast	per lb	22
Rump roast	per lb	22
Porterhouse roast	per lb	22
Steak, Chuck	per lb	15
Round	per lb	16
Rib	per lb	21
Sirloin	per lb	22
Porterhouse	per lb	22
Rump	per lb	22
Tenderloin	per lb	27

MISCELLANEOUS.

Livers—Beef	per lb	11½
Calf	each	65
Sausage—Pork	per lb	17
Bologna	per lb	17
Frankfurter	per lb	17
Leberwurst	per lb	17
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	30
Oysters	keg	90
Eggs, fresh	dozen	34

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, fatted	each	1.30
medium weight	each	90
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50

CURED AND PICKLED MEATS.

Hams, York Cut, Finnis and Fisher	per lb	30
Bacon—Breakfast, whole piece	per lb	27
Breakfast, sliced	per lb	29
Ham—Sugar-cured, sliced	per lb	§25
One-half, for boiling	per lb	§21
Westphalia	per lb	45
Hocks	per lb	‡8
Sugar cured	per lb	20
Beef, salt, family	per lb	10
Pork, salt	per lb	15
Ham, boiled	per lb	28
Ox tongues	each	1.00
Pigs' feet	per lb	8
tongues	per lb	16

DAIRY PRODUCTS.

Butter—Prints, prime quality	per lb	42
Cheese—Roquefort	per lb	45
Philadelphia Cream	each	20
Yonug America	per lb	22
Swiss	per lb	31
Edam	each	1.05
Camembert	per lb	28
Neufchatel	each	6
Gouda	per lb	34
Parmesan	bottle	20
French cheese in tins—Camembert, Brie, Neufchatel	1-lb tin	20
Milk, Briarcliff	bottle	**25
Butter	bottle	**15

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	*5
Lettuce	per lb	*10
Potatoes, white,	per lb	3
sweet	per lb	2½
Onions	per lb	3
Squash, Hubbard	per lb	5
Yams	per lb	3½
Turnips	per lb	*3
Carrots	per lb	*3
Beets	per lb	*3
Alligator pears	each	10
Cauliflower	per lb	12
Parsnips	per lb	4
Cucumbers	per lb	6
Tomatoes	per lb	7
Lemons	dozen	24
Grapes	per lb	9
Watermelons	each	35
Peaches	per lb	10
Cabbage	per lb	*3
Apples,	per lb	*5
Oranges	dozen	12
Grapefruit	each	4
Plums	per lb	12
Pears	per lb	8

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Rainfall, November 1 to 13, 1909, Inclusive

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Division—	*Ins.*		*Ins.*
Cristobal	6 13	11	14.94
Brazos Brook	5.31	12	12.88
Gatun	3.70	11	11.46
Central Division—			
Bohio	3.99	12	10.78
Tabernilla	4.32	12	12.12
San Pablo	3.63	12	10.08
Gorgona	3.85	13	9.42
Gamboa	2.25	12	8.33
Empire	1.10	11	7.32
Camacho	1.98	12	9.45
Culebra	1 73	2	8.45
Pacific Division—			
Rio Grande	1.80	2	8.78
Pedro Miguel	1.29	2	4.92
Miraflores	1.85	2	6.13
Balboa	1.26	2	4.38
Ancon	1.15	3	4.23
Atlantic Coast—			
Porto Bello	4.65	11	14 86
Nombre de Dios	1.88	11	9.12
Upper Chagres—			
El Vigia	4.72	12	10.93
Alhajuela	3.55	11	12.40

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending November 24, 1909 (75th meridan time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	A. M.	P. M.	P. M.
Nov. 18	....	12.43	6.38	1.06	7.11
Nov. 19	....	1.31	7.24	1.57	8.05
Nov. 20	....	2.28	8.20	2.55	9.06
Nov. 21	....	3.35	9.28	4.02	10.13
Nov. 22	....	4.55	11.44	5.11	11.23
Nov. 23	....	5.53	NOON. 12.00	6.18	....
Nov. 24	12.27	6.54	P. M. 1.03	7.15	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., November 17, 1909.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Aubery, M. C.
Ayers, Frances E.
Barney, W.
Branzell, George
Bruck, Harry W.
Butler, Charles M.
Cambell, Capt. Otis
Cassidy, Edward
Downey, M. J.
Drake, Cresswell
Ewing, Roy V.
Eylar, M. S.
Fensley, Elmen E.
Gallaher, William F.
Harris, Chas.
Hart, Mrs. Marion
Hobday, Robert T.
Humphreys, James B.
Jansen, J. H.
Karney, Jack
Lawlor, Wm.
Lellie, Chas. D.
Ligge, Otto
Marks, George
McNamara, Thomas
Moellen, L. A.
Moody, Chas. W.
Morton, Albert
Munkhouse, A. O. G.
Nagle, Charles
Nolan, Alphonsus P. (2d class.)
Purcell, P.
Reynolds, Mrs. Irene
Roach, Cleveland B. (2d class.)
Robertson, Robert
Riddick, W. M.
Russell, Major Robert
Sheridan, P. L.
Shunnan, Frank
Stocchini, Mrs. T. F.
Thomsen, George
Thompson, W. L.
Walker, Mrs. A. J.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO COLON.

Atrato	R.-M.	Saturday	Nov. 13
Panama	P. R. R.	Monday	Nov. 15
Allianca	P. R. R.	Saturday	Nov. 20
Prinz Aug. Wilhelm	H.-A.	Saturday	Nov. 20
Colon	P. R. R.	Saturday	Nov. 27
Tagus	R.-M.	Saturday	Nov. 27
Advance	P. R. R.	Thursday	Dec. 2
Prinz Joachim	H.-A	Saturday	Dec. 4
Panama	P. R. R.	Thursday	Dec. 9
Oruba	R.-M.	Saturday	Dec. 11
Allianca	P. R. R.	Tuesday	Dec. 14
Prinz Aug. Wilhelm	H.-A.	Saturday	Dec. 18
Colon	P. R. R.	Tuesday	Dec. 21
Magdalena	R.-M.	Saturday	Dec. 25
Advance	P. R. R.	Monday	Dec. 27
Prinz Joachim	H.-A.	Saturday	Jan. 1
Clyde	R.-M.	Saturday	Jan. 8
Prinz Aug. Wilhelm	H.-A.	Saturday	Jan. 15
Thames	R.-M.	Saturday	Jan. 22

Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

COLON TO NEW YORK.

Advance	P. R. R.	Sunday	Nov. 21
Prinz Joachim	H.-A.	Tuesday	Nov. 23
Panama	P. R. R.	Saturday	Nov. 27
Oruba	R.-M.	Wednesday	Dec. 1
Allianca	P. R. R.	Thursday	Dec. 2
Prinz Aug. Wilhelm	H.-A.	Tuesday	Dec. 7
Colon	P. R. R.	Thursday	Dec. 9
Advance	P. R. R.	Tuesday	Dec. 14
Magdalena	R.-M.	Wednesday	Dec. 15
Panama	P. R. R.	Tuesday	Dec. 21
Prinz Joachim	H.-A.	Tuesday	Dec. 21
Allianca	P. R. R.	Sunday	Dec. 26
Clyde	R.-M.	Wednesday	Dec. 29
Colon	P. R. R.	Sunday	Jan. 2
Prinz Aug. Wilhelm	H.-A.	Tuesday	Jan. 4
Advance	P. R. R.	Saturday	Jan. 8
Thames	R.-M.	Wednesday	Jan. 12

A fortnightly service of the steamers Ancon and Cristobal will be maintained as nearly as possible but changes from the schedule may be found necessary. The following is the schedule:

NEW YORK TO CRISTOBAL.

Ancon	P. R. R.	Wednesday	Nov. 17
Cristobal	P. R. R.	Wednesday	Dec. 1
Ancon	P. R. R.	Wednesday	Dec. 15

CRISTOBAL TO NEW YORK.

Cristobal	P. R. R.	Sunday	Nov. 21
Ancon	P. R. R.	Wednesday	Dec. 1
Cristobal	P. R. R.	Wednesday	Dec. 15
Ancon	P. R. R.	Wednesday	Dec. 29

NEW ORLEANS TO COLON.

Atenas	U.F.C.	Saturday	Nov. 13
Turrialba	U.F.C.	Saturday	Nov. 20
Abangarez	U.F.C.	Saturday	Nov. 27

COLON TO NEW ORLEANS.

Atenas	U.F.C.	Tuesday	Nov. 23
Turrialba	U.F.C.	Tuesday	Nov. 30
Abangarez	U.F.C.	Tuesday	Dec. 7

COLON TO BARBADOS, CALLING AT TRINIDAD.

Atrato	R.-M.	Tuesday	Nov. 23

A ship of the United Fruit Company's line sails from the dock at Colon, at 3 p. m., Tuesday of each week.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Tampican* for New Orleans, via Kingston, Ja., on or about December 4.

The steamers *David* of the National Navigation Company, and the *Taboga* of the Pacific Steam Navigation Company, leave Panama, for David, province of Chiriqui, and intermediate points, the first and third weeks of each month.

The following vessels arrived at or departed from Balboa during the week ended November 13: Arrivals—November 5, *Aztec* from San Francisco; November 6, *Newport* from San Francisco; November 10, *Strathgyle* from Puget Sound; November 12, *Loa* from south ports. Departures—November 6, *Peru* for San Francisco; November 7, *Mexico* for south ports; November 9, *Ecuador* for Guayaquil; November 11, *Manavi* for intermediate ports.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, NOVEMBER 24, 1909. No. 13.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Mr. Tawney's Congratulations.

The following wireless message was received from Mr. Tawney, Chairman of the Committee on Appropriations, on the steamship *Cristobal*, November 22, 1909:

Col. Goethals, Culebra:

The Committee on Appropriations and all members of the party extend to you and your associates their sincere appreciation of your many courtesies, and their hearty congratulations on your splendid organization and the marvelous progress you have made the past two years. You all deserve and will receive the thanks of a grateful nation for your splendid work. J. A. TAWNEY.

Chairman of Committee on Appropriations.

Building Gatun Locks.

The heavy rains and the difficulty of towing barges up to Gatun against the strong current in the French canal did not affect the concrete laying at Gatun Locks to an appreciable extent, as 7,188 cubic yards were placed in six days, and on no day was the amount less than 1,000 cubic yards. The record up to the close of work on the 20th follows:

	Cubic Yards.
August (seven days)	1,298
September (26 days)	11,934
October (31 days)	29,378
November 1 to 6	6,692
November 7 to 13	7,908
November 15 to 20	7,188
Total	64,484

The daily record for the week is as follows:

	Cubic Yards.
November 15	1,290
November 16	1,558
November 17	1,086
November 18	1,026
November 19	1,064
November 20	1,164
Total	7,188

Concrete Operations at Pedro Miguel.

The record of concrete laying at the Pedro Miguel Locks for the week ending Saturday, November 20, was the lowest since the installation of the present temporary mixing plant. On the 17th, 18th, and 19th, operations were either limited or entirely suspended owing to flooded conditions in the lock pit. On Saturday the situation had considerably improved. The total amount of concrete laid during the week was 1,685½ cubic yards. Ten of the 16 cross culverts in the west chamber have been completed, and on Saturday work was in progress on the eleventh culvert. Operations were continued on the floors of the south forebay and the west lock chamber. The daily record for the six working days of last week was as follows:

	Cubic Yards.
November 15	538
November 16	495
November 17	160
November 18	...
November 19	85
November 20	407½
Total	1,685½

The amount of concrete laid from the beginning of work on September 1, to November 20, inclusive, is as follows:

	Cubic Yards.
September	2,369½
October	8,396¼
November 1 to 6	2,236½
November 8 to 13	2,913
November 15 to 20	1,685½
Total	17,600¾

Rock Crusher for Porto Bello.

The Washington office of the Commission has been directed to buy on open competition a gyratory rock crusher to be erected at Porto Bello. The order calls for a crusher with hopper diameter at the top not less than 20 feet, two arm spider, two openings not less than 42 inches wide and 96 inches long, main shaft approximately 30 inches in diameter, side discharge. The bids are to be limited to manufacturers who have built crushers of this size, and quick delivery is to be the main requirement.

The crushing plant at Porto Bello now consists of two No. 9 and four No. 6 crushers with a rated capacity of 2,500 cubic yards a day. The No. 9 crushers can take rock 22 by 26 inches. As the rock is taken from the quarry it is frequently too large to go into the crushers and it is, therefore, necessary to break it with dynamite. On some days it has been found necessary to fire as many as 1,200 shots and use from half a ton to a ton of dynamite. This secondary breaking of the rock after it leaves the quarry makes it impossible to feed the crushers constantly with as much stone as they can handle, and the output of crushed rock is, therefore, not sufficient to meet the demands that will shortly be made by the concrete plants at Gatun. The new crusher will take rock just as the steam shovels dig it out of the quarry, doing away with the secondary breaking with dynamite.

HEAVY RAINS AND FRESHET.

Canal Work Impeded by Water—Chagres River Highest Since 1906.

Continuous rainfall and the largest freshet in the Chagres river since 1906 seriously interfered with Canal work, especially in the dry excavation, during the week ending November 20. The damage is slight, the principal loss being that incident to having a score of steam shovels, and other equipment, out of service for three or more days, and to the washing out of construction tracks.

The rains of last week were a continuation of those which caused the freshet of November 11–13, and were characterized by a steady precipitation, rather than by the heavy separate downpours that occur so frequently during the rainy season. They were universal throughout the Isthmus. The rainfall by days for various stations during the week is shown in the following table:

STATIONS.	14th.	15th.	16th.	17th.	18th.	19th.	20th.
Atlantic Div.—	*Ins.*	*Ins.*	*Ins.*	*Ins.*	*Ins.*	*Ins.*	*Ins.*
Cristobal	.74	1.49	.34	3.40	3.39	.73	1.19
Brazos Brook	.03	1.23	.31	3.82	3.41	1.46	.78
Gatun	2.35	1.30	1.19	3.64	3.74	1.63	.56
Central Div.—							
Bohio	.93	.73	2.25	2.15	2.96	.99	.36
Tabernilla	.86	.32	.85	.85	1.92	.94	.18
San Pablo	1.45	.09	.83	.85	2.20	1.17	.13
Gorgona	1.03	1.01	.30	.05	2.05	2.08	1.55
Gamboa	1.05	.76	.75	1.96	2.18	1.57	.12
Empire	.66	.47	.53	2.59	1.11	.73	.05
Camacho	.25	1.05	1.10	3.20	1.01	1.46	.08
Culebra	.56	.47	.90	3.17	1.56	1.08	.07
Pacific Div.—							
Rio Grande	.55	.29	.74	3.33	1.33	.90	.08
Pedro Miguel	.25	.14	.84	3.38	1.65	.68	.20
Miraflores	.....	.....	.....	.....	.....	.....	.....
Balboa	.07	.01	.19	1.67	1.75	.32	.06
Ancon	.05	.01	.10	1 61	1.64	.31	.22
Atlantic Coast—							
Porto Bello	1.21	.28	3.36	1.45	8.53	2.84	.28
Nombre de Dios	0.0	1.00	.81	7.08	6.64	4.49	.48
Upper Chagres—							
El Vigia	.32	1.73	.39	4.23	2.93	3.12	.41
Alhajuela	.26	.59	.31	3.76	3.62	2.22	.54

The precipitation for the period November 1 to November 20, inclusive, compared with that for a similar period in 1908, is shown in the following table:

STATIONS.	1909.				1908.	
	Nov. 1 to 20.				Nov. 1 to 21.	
	Total for week.	Maximum in one day.	Date.	Total for period.	Maximum in one day.	Total for period.
Atlantic Div.—	*Ins.*	*Ins.*		*Ins.*	*Ins.*	*Ins.*
Cristobal	11.28	6.13	11	22.32	3.65	27.52
Brazos Brook	11.04	5.31	12	21.65	2.86	24.29
Gatun	14.41	3.74	18	25.87	2.84	18.66
Central Div.—						
Bohio	10.37	3.99	12	21.15	3.00	15.75
Tabernilla	5.92	4.32	12	18.04	1.55	9.36
San Pablo	6.72	3.63	12	16.80	.96	7.74
Bas Obispo	......	......	....	......	1.32	6,38
Gorgona	8.07	3.85	13	17.49	......	......
Gamboa	8.39	2.25	12	17.72	1.00	6.88
Empire	6.14	2.59	17	13.46	.59	3.66
Camacho	8.15	3.20	17	17.60	1.67	6.03
Culebra	7.81	3.17	17	12.26	.59	4.20

STATIONS.	1909. Nov. 1 to 20. Total for week.	Maximum in one day.	Date.	Total for period.	1908. Nov. 1 to 21. Maximum in one day.	Total for period.
Pacific Div.—						
Rio Grande....	7.22	3.33	17	16.00	.72	4.56
Pedro Miguel..	7.14	3.38	17	12.16	......	......
Miraflores.....	.. .	......	...	......	......	......
Balboa.........	4.07	1.75	18	8.45	.95	6.54
Ancon..	3.94	1.64	18	8.17	1.00	7.66
Atlantic Coast—						
Porto Bello....	17.90	8.53	18	32.81	6.78	31.49
Nombre de Dios.........	20.50	7.08	17	26.87	......	......
Upper Chagres—						
El Vigia........	13.13	4.72	12	24.06	1.85	10.82
Alhajuela......	11.30	3.76	17	23.70	2.75	9.53

As a basis for comparison the following statement of the annual rainfall for various States in the United States is given:

	Inches.		*Inches.*
Alabama............	53.6	Massachusetts......	46.6
Colorado............	14.8	Nebraska...........	26.9
Illinois.,.............	38.1	New York..........	36.5
California...........	21.9	Ohio.................	40.0
Idaho.................	17.1	Virginia	42.6
South Carolina......	45 4	United States.......	36.3

FRESHET IN THE CHAGRES.

The water in the Chagres had fallen after the freshet of November 11-13, but on November 16 it began to rise rapidly again. On the 17th a heavy rainfall was reported at all stations from Culebra to Cristobal, and at Alhajuela, and a further rise in the river at the Vigia gaging station was recorded. It was predicted on the morning of the 17th that the river would rise to elevation 64 feet above sea level at Gamboa, and to 17 feet at Gatun, but the continued rise at Vigia led to a prediction in the afternoon that the river would rise to 70 feet at Gamboa, and that the freshet would be the greatest since that of December 1906. The progress of the freshet from November 16 until the crest passed Gatun on November 20 is shown in the following table:

STAGES OF CHAGRES RIVER.
(Freshet of November 17-18-19, 1909).

STATION.	START. Time.	*Height.	CREST. Time.	*Height.
Vigia........	8 p. m., 16th	128.0	6 a. m., 19th	154.4
Alhajuela...	9 p. m., 16th	94.0	6 a. m., 19th	111.4
Gamboa.....	11 p. m., 16th	49.9	Noon, 19th	72.6
Bohio........	Mdnt., 16th	12.8	7 a. m., 20th	37.1
Gatun Canal	7 a. m., 17th	10.5	5 p. m., 20th	21.5
Gatun West Diversion .	7 a. m., 17th	8.9	5 p. m., 20th	19.9

*Feet above mean sea level.

The maximum height of the Chagres above mean sea level for the week ending at midnight on November 20, is shown in the following table:

	STATIONS. Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft..	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Nov. 14....	128.0	94.5	50.7	19.7	16.1	13.4
Monday, Nov. 15 ..	129.0	95.2	51.8	16.0	13.3	11.5
Tuesday, Nov. 16..	138.8	100.7	51.6	15.4	11.4	9.8
Wed'esday, Nov. 17	147.3	107.0	68.0	25.0	13.9	11.8
Thursday, Nov. 18.	153.8	110.7	69.3	32.4	17.4	15.8
Friday, Nov. 19....	154.4	111.4	72.6	37.1	20.4	18.9
Saturday, Nov. 20..	141.0	104.5	68.8	37.1	21.5	19.9

A comparison with the heights of other floods above sea level at Gamboa and Bohio is appended:

DATE.	Feet above sea level. Gamboa.	Bohio.
1879...............................	82.5	39.37
1885, November....................	77.4	33.79
1885, December....................	70.0	26.41
1888...............................	77.3	34.68
1890...............................	77.7	32.15
1893...............................	71.2	28.54
1906, November	68.0	26.08
1906, December....................	81.6	38.65
1909, January 29..................	66.6	19.20
1909, June 15.......................	67.4	14.90
1909, November 12................	64.0	26.70
1909, November 19................	72.6	37.10

At Vigia, the river gaging station on the Chagres about 22 miles above the entrance to Culebra Cut, the water rose to such a height on the night of the 18th that the house of the observer was flooded and the observer himself had to take to high ground for safety. About 6 o'clock on the morning of the 19th the office of the Third Division at Culebra received telephone advice from Alhajuela that the river was still rising, but after that, communication was interrupted and no further advices were received from the upper river until after the water began to subside. The gage at Gamboa, a mile and a half above the entrance to Culebra Cut at Bas Obispo, recorded a steady rise until noon on the 19th, when the surface of the river remained practically stationary for several hours, before the water began to go down.

At the entrance to Culebra Cut a dike of rock and earth separates the channel of the river from the excavation. The top of this dike is at 71 feet above sea level, and all during the morning of the 19th the water in the river was within a foot of the top, but did not flow over. The height of the river at this point throughout the flood may be obtained by subtracting two feet from the height recorded at Gamboa. The barrier between the river channel and the cut at Santa Cruz, immediately opposite the entrance to Culebra Cut, rises to elevation 67 feet above sea level. The water flowed over this dike and into the prism of the Canal, continuing through the completed Canal at Matachin. Work was suspended at Santa Cruz early in the rainy season, because of the difficulty of keeping the excavation dry, and no equipment was exposed on this part of the work. The dike at the south or upstream end is of rock and withstood the rush of the water flowing over it, and it is believed, therefore, that little silt was carried into the prism. It is probable that the dike at the north end of the Santa Cruz cut was washed away, as it was merely a mound of earth. At Gamboa bridge one of the piers was subjected to a severe scouring, but without visible injury.

Water backed up into the hamlet of Bailamonos and forced many of the residents to leave their huts and shacks. At Frijoles three feet of water flowed over the Panama railroad tracks, and flooded the houses. On the afternoon of the 18th, forty of the residents of this hamlet were taken to Tabernilla and housed in the empty labor barracks at that place. Some of the residents of Frijoles took to the high ground around the camp on the relocation of the Panama railroad, near Frijoles. Police headquarters were established there, and preparations were made for protecting the property in the village after the flood subsided, but while the houses were still untenable. At Santa Cruz a number of inhabitants were taken to higher ground by boat.

Traffic on the Panama railroad was suspended on the 19th. The tracks were under water from Buena Vista to Tabernilla, a distance of five miles. Train No. 3 from Colon, due in Panama at 7.30 o'clock in the morning, was the last train permitted to use the flooded tracks. It ran through three feet of water, a depth sufficient to put the fires out if the locomotive had been using coal. At San Pablo the trestle crossing the drainage ditch from the excavation at Caimito to San Pablo was threatened by a mass of driftwood and lumber, the latter having floated down from Gorgona where part of a lumber pile was carried away. This material was piled up against the bents of the trestle that crosses the ditch which drains the excavation at Caimito into the completed Canal at San Pablo, and through which a torrent was pouring. Between San Pablo and Bailamonos the tracks were under several inches of water, but it was still water and no injury was done to the roadbed. The crest of the flood passed San Pablo, Tabernilla and Frijoles on the night of the 19th, or early morning of the 20th, and on the afternooon of the 20th was at Gatun. Notwithstanding this, there was 20 inches of water on the tracks between Frijoles and Gatun, and it was not deemed safe to run a train across the Black Swamp until the condition of the bridge could be ascertained. Four feet of water stood on the tracks over the Black Swamp on the 20th, but this had gone down sufficiently on the 21st to permit a train to cross. Traffic was resumed on the 22d, but the trains were run slow over the inundated tracks.

CULEBRA CUT.

About 8 o'clock on the night of November 16, in consequence of continuous and heavy rains, that portion of the slides at Culebra, near the old station of the Panama railroad, broke 300 feet back from the edge of the Cut, and about 110,000 cubic yards of material, loosened by the water, moved toward the prism of the Canal. It pushed steam shovel 214 ahead of it for a short distance, and then flowed past into the prism, leaving the shovel uninjured, but making service from it impossible until the slide is cleared away. The old main line of the Panama railroad was carried away, and three of the five main lines for construction trains in the Cut were either broken or covered up. As the entrance to Rio Grande is now made from the present line of the Panama railroad through Rio Grande quarry little inconvenience was caused by the carrying away of the old main line. In the Cut, however, the putting out of service of three of five of the main construction tracks seriously hampered the serving of the steam shovels with cars.

On the afternoon of the 17th steam shovels 254, 219, and 115 were moved to the slide, and on the following morning the work of clearing the tracks and clearing out the moving material was begun. Later shovels 212 and 217 were also sent to assist in this work.

In the north end of the Cut little inconvenience was caused until the afternoon of the 18th when the pumps in the sump at Bas Obispo were no longer able to keep the water down. Shovel 228 working at elevation 40 feet above sea level, the bottom of the Canal, went out of service during the morning of the 17th, and on the morning of the 18th shovel 221, working at elevation 46, was obliged to suspend. The centrifugal pump in the station was first to suspend, but the reciprocating pumps were kept in service by means of compressed air after the water had risen above them and steam was no longer effective.

After the pumps stopped at Bas Obispo on the afternoon of the 18th the water in that end of the Cut rose rapidly. On the morning of the 19th the steam shovels were all under water, and about 9 o'clock the spoil trains from Las Cascadas and Empire ceased to use the Bas Obispo tracks as a means of egress to the main line. The water was up to the roof of the pumping station in the Cut, and on the other side of the dike the river was fully ten feet higher. The steady rise in the river with predictions of further rise, and the fact that the water was already within a foot of the top of the dike made it seem probable that the river would overflow into the Cut. To avoid the wash that would be sure to result from such an overflow the gates through the dike were opened and water was let into the Cut until it was level with that in the river. The river actually did not overflow the dike. As it subsides, the water thus let into the Cut will flow out through the open gates, and so drain the excavation pit until the water is below the level of the pumps, which will then be set at work again.

As a result of the rain, and the flooding of the Cut in anticipation of an overflow from the Chagres, work was practically suspended as far south as Las Cascadas. In other parts, however, the shovels continued to dig, and each day throughout the storm, a large quantity of material was moved to the dumps. The lack of common labor on account of the rain did more than the rain and flood to lessen the excavation record for Culebra Cut.

Notwithstanding the flooding of two miles of the Cut, lack of laborers in the steam shovel pits, on the tracks, and on the dumps, and the slide at Culebra, the excavation record for Culebra Cut did not fall below seventy per cent of the normal amount. A statement follows of the amount removed each day during the week in each of the three districts:

November	Districts.			
	Bas Obispo.	Empire.	Culebra.	Total.
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
15............	9,659	24,449	19,786	53,894
16............	11,190	25,284	18,534	55,008
17............	7,308	20,417	9,348	37,073
18............	3,335	20,390	12,663	36,388
19............	3,145	18,097	13,855	35,097
20............	4,440	18,359	18,475	41,274
Total	39,077	126,996	92,661	258,734

The Bas Obispo District extends to and includes Las Cascadas, and this is the territory in which the Cut was flooded on the 19th and 20th, and most of the steam shovels were covered with water. The Culebra District is that in which only two main tracks had been left open by the slide at Culebra village.

CHAGRES SECTION.

In the Chagres section of the Central Division all efforts to continue work were abandoned on Wednesday, when the water around the shovels made further excavation impossible. No work was being done at Santa Cruz, as stated above, and the channel at Matachin is already completed. At Gorgona, or Point 3, two shovels were excavating at 50 feet above sea level, and the water gained on them until the 19th, when only an edge of their roofs and their smokestacks could be seen above the flood. Two shovels at Mamei were working at 40 feet above sea level, and all that could be seen of one was part of the boom sticking above water. This shovel is in a position where it was exposed to some of the current, but it is not believed that it has been damaged. At Caimito on the morning of the 19th no part of the shovels was visible, although the crest of the flood did not reach there until that night. The steam shovel at Tabernilla was likewise covered with water.

ATLANTIC DIVISION.

At Gatun the Dam has closed two of the channels through which the flood water of the river formerly escaped, and in consequence the water reached the highest point ever recorded. At its crest the freshet was 21.5 feet above sea level at the gaging station, about twice the height it reached in the flood of 1906. All the cleared area in the anchorage basin just south of the Dam was flooded, and only a few bushes stuck out of the water here and there. Water was up to the roof of the pumping station, which is situated on the Gatun river near its confluence with the Chagres, and at this point 22 feet were recorded. At Gatun, as on other parts of the Canal work the damage is slight, and consists more in the loss of time and a temporary disorganization of the force than in direct damage.

At the time of the freshet of November 11-13 an earthen dike had been thrown up across the south or upstream end of the spillway for the purpose of keeping water out of the channel and the excavation at the south approach. On the morning of the 19th the water in the lake back of the Dam had risen so high that it was deemed wise to give it an additional outlet to that afforded by the west diversion and the west channel. The dike was, therefore, opened and the water allowed to flow through the spillway. It made a stream the full width of the channel, 280 feet, and ten feet deep, with a current estimated at eight miles an hour.

Two steam shovels and a small locomotive were inundated, and six bents in the trestle at the north end of the spillway were carried away. A quantity of lumber used in the forms was saved, and a number of pieces of lumber that had floated down the river from Gorgona were also drawn out of the water. At the south end the trestle was saved by the work of a locomotive crane equipped with a grab hook, which kept the lumber and trees that flowed against the bents from piling up there. One tree 100 feet long, and several 90 feet long were floated through the trestle in this way. After the water drops to 10 feet above sea level one 8-inch and two 5-inch portable centrifugal pumps will be started, and it will take only two days to make the spillway and the excavation at the approaches dry enough so that all work may be resumed.

At the west diversion part of the trestle on the south toe of the Dam was carried away, and the whole trestle will need to be redriven. The trestle west of the diversion was uninjured.

The excavation pit at Mindi filled with water up to sea level, and thus there are parts of that cut in which the water stands forty-two feet deep. The pumps are covered, and no steps have yet been taken to unwater the pit.

The heavy rains did not interfere with the lock building, as will be seen by the record of concrete laid, printed elsewhere in this issue of THE CANAL RECORD.

PACIFIC DIVISION.

The heavy rains seriously impeded work at the Pedro Miguel Locks, and caused a complete suspension of operations on Thursday, not only there, but at the Miraflores Locks, and Ancon quarry as well. Not a steam shovel throughout the entire Pacific Division was working on that date, the operations being confined solely to the performance of the dredges.

Between midnight of Tuesday and midnight of Wednesday 3.38 inches of water fell, resulting in the flooding of the trenches and other low places in the Pedro Miguel lock pit to a depth of several feet. Two steam shovels, which are engaged in excavating to grade in the east chamber of the locks were half submerged, and were still partly under water at the close of business on Saturday night, although the pumps had been working steadily draining this portion of the chamber. A third steam shovel working on the top of the center wall, 8 or 10 feet above the floor of the locks, escaped the inundation. The excavation record for the week at Pedro Miguel shows how this feature of the work was affected, and is as follows:

	Cubic Yards.
Monday, November 15......................	650
Tuesday, November 16......................	930
Wednesday, November 17................	540
Thursday, November 18......................	...
Friday, November 19................	400
Saturday, November 20....................	350

Most of the section in the west chamber where concrete is being laid was under water on Thursday, although hastily constructed dikes kept out some from the cross culverts on which work was in progress. The amount of concrete laid on Wednesday was only 160 cubic yards. On Thursday, there was a complete shut-down, and on Friday the situation had barely improved, only 85 cubic yards having been laid during the day. Clearing weather permitted a partial return to normal conditions on Saturday, although the output for the day was below the average.

At the Miraflores Locks there was but slight interruption with the exception of Thursday, when no work was accomplished. On the other days of the week, the steams shovels working in the lock pit maintained about the usual output, and on Friday, the day following the temporary suspension, the record of yardage was the largest for the week. The excavation statement for the six working days ending Saturday, November 20 follows:

	Cubic Yards.
Monday, November 15......................	740
Tuesday, November 16......................	660
Wednesday, November 17................	770
Thursday, November 18....................	...
Friday, November 19......................	1,040
Saturday, November 20....................	960

All the streams in the vicinity of Miraflores rose rapidly on Wednesday, and before night were bank full. The Rio Grande gave no special trouble, but the Cardenas River at one time threatened the stability of Bridge 62 on the Panama railroad, about one mile north of Corozal. When the passenger train from Panama passed over it about 6 p.m., the water was nearly level with the top of the rails. It rose no higher, however, and within an hour's time had subsided about a foot.

The water in Cocoli Lake rose to a height of a little over 40 feet above sea level, or five feet above the normal stage. The lake, as well as the Rio Grande, began to subside before the flood waters of the Cocoli River reached the basin, and the fact that the lake level did not rise higher is probably due to this circumstance. The Miraflores lock pit is protected from an overflow from Cocoli Lake by a dike, the summit of which is 44 feet above sea level, and during the high water period it served its purpose well.

TEMPORARY SHORTAGE OF LABOR.

As much inconvenience was caused by the refusal of the laborers to report for work as by the incessant rain. Track shifting, the moving up of shovels, and the drilling, blasting, and keeping the drainage ditches open depend largely on common labor. The men were wet through by the rains of the previous days, and on the morning of the 17th many of them failed to report for duty. Owing to the conditions under which they stayed away from work the rule forbidding them to occupy the labor barracks, when not at work, was not enforced.

GATUN WATER SUPPLY.

Water for domestic use and fire protection in Gatun is pumped from the Gatun River into a large tank on one of the hills in the village, and delivered thence by gravity. The pumping station is on the flats, a few feet above sea level, and much of the time last week it was almost submerged. In anticipation of a flood that would stop pumps mounted in the ordinary way, a concrete well was constructed with the top of its walls at 19 feet above sea level, and in this well was placed an electrically driven pump. When it became evident last week that the water might rise above the top of the well a wooden bulkhead was constructed on top of the concrete wall, which raised the height of the wall to 25 feet above sea level. For several days the water was above the top of the concrete wall, and on the 20th it stood at elevation 22 feet. This hastily constructed bulkhead protected the pump and kept the municipal water system of Gatun in service.

At the new reservoir, west of the village, which is to take the place of the present pumping system, the water rose from 19 feet to 41 feet, because of a stoppage in the main sluice pipe. A diver was sent down to open the pipe, and the level of the water was lowered before any damage was done to the dam, which is in process of construction.

Brazos Brook Reservoir Full.

Between the 9th and 19th of November 250,000,000 gallons of water were added to the supply at the Brazos Brook reservoir. On the 20th four feet of water was pouring over the spillway of the dam.

Slide in Culebra Village.

A part of the side hill along which the main highway is constructed in Culebra village gave way in front of the house of Lieut.-Col. C. A. Devol during the continuous rains of last week, and was carried toward Culebra Cut. The road was rendered impassable for teams, and it may be found advisable to build a new road from the station into the village behind the hill on which Lieut.-Col. Devol's house is situated.

Drowned at Gatun.

Three persons were drowned at Gatun during the recent period of high water. At 11.15 a. m., on Friday, November 19, two colored laborers, Joseph Louis, Check No. 36,411, a Martiniquan, and Duncan Everett, Check No. 34,241, a Guadeloupan, who were employed with a number of others in making repairs to a broken discharge pipe on Dredge *No. 85*, working in the basin south of Gatun Dam, fell into the water and were drowned before assistance could reach them. The other men were saved.

At 7.15 p.m., on Saturday, November 20, John Bailey, Check No. 69,042, a Jamaican, who was working on a pontoon bridge near Dredge *No. 82*, north of Gatun Dam, missed his footing, fell into the water and was drowned.

Miraflores Power House.

Current was transmitted over the line from the Miraflores power plant to the Pedro Miguel locks for the first time on Thursday, November 18, and was used in operating a motor which drives the new 12-inch centrifugal pump located in the upper forebay. This pump draws the water from a sump close by and forces it clear of the lock site. Shortly after the current was turned on, an accident occurred to the discharge pipe line, due to the high pressure at which the water was being forced through it. The line was dislodged and bent in many places, but repairs to it were practically completed on Saturday afternoon, November 20, and the pump was put into operation again. Work on the new substation in the forebay is well advanced, and as soon as it is completed, the centrifugal pump will be operated from there. At present the motor is directly connected with the power house, and is supplied with a current of 550 volts.

The second turbine at the power plant is nearing completion, while work is in progress on the third and remaining one. With the exception of a portion of the ground floor, the concrete work on the superstructure is practically finished; part of the temporary galvanized iron wall on the north end is in place, and about half of the Louvre sashes, which protect the openings in the second story, have been installed.

Hoboken Terminal.

A lease has been made by the Panama Railroad Steamship Company of a 600-foot landing pier at Hoboken, at which the ships *Ancon* and *Cristobal* may take their cargoes of cement and also unload their return cargoes of scrap iron and other freight. The pier is accessible by means of railroad tracks, and has platform scales and a car puller. The scrap and other freight can thus be loaded directly upon cars for shipment to the consignees, and the method will also apply in handling freight from cars into the ships. One of the disadvantages in handling the scrap iron sent to the States from the Isthmus has been the necessity of accommodating the cargo to the unloading facilities in New York. Instead of five hundred tons at a shipment, it will be possible to send one thousand tons from this time forth, if it is desired to do so. The new terminal arrangement is the first step in a movement to make a terminal in Hoboken adequate for all the Panama line steamers, which will be available also for other Government vessels.

Cement Bags.

Bags in which cement is brought to the Isthmus are carefully preserved, baled, and returned to the United States, where the cement manufacturer gives a rebate to the Commission of 8½ cents each. Up to November 20 there had been brought to the Isthmus under the new contract for cement 335,988 bags and 145,540 barrels of cement. The barrels are destroyed. On November 20 there had been shipped to the States 102,357 bags, and 174,680 were ready for shipment.

Canal Fortifications.

An order was signed by the Secretary of War on October 10, appointing a joint Army and Navy Board to visit the Isthmus, draw up plans for the defence of the Canal, and report to the War Department. It consists of the following members: Brigadier General William L. Marshall, Chief of Engineers; Brigadier General William Crozier, Chief of Ordnance; Brigadier General Arthur Murray, Chief of the Coast Artillery; Brigadier General Tasker H. Bliss, and Brigadier General William W. Wotherspoon of the General Staff; Major William G. Haan of the Coast Artillery; Capt. Sidney A. Staunton, member of the Navy General Board, and Commander W. L. Rodgers, Naval War College.

Chamé Sand.

The order given the Pacific Division some time ago for 20,000 cubic yards of Chamé sand to be used at Gatun Locks, was completed last week. Shipments will continue to be made to Gatun, however, in the usual quantities until further notice. On October 8, the dredge *Gopher* was taken to Point Chamé, and it has been there ever since. The output of sand from this locality for the month of September was 3,400 cubic yards, and for the month of October, 11,900 cubic yards. The cost of getting out and delivering the sand f. o. b. Balboa, including the dredging and towing expense, and plant charge, for the month of September, was 90 cents per cubic yard.

Departure of the Congressmen.

The Committee on Appropriations of the House of Representatives finished its hearings on the estimates for the Isthmian Canal for 1910–1911 on November 19 and sailed for the States on the *Cristobal* on November 21.

Sick in Quarters.

Attention is called to the circular of the Chief Sanitary Officer published elsewhere in this issue of THE CANAL RECORD which reiterates the rules made by the Chairman governing employes sick in quarters.

A road will be constructed to run from the Mount Hope road at the north end of the office of the Depot Quartermaster at Mount Hope to the machine shops at the Cristobal drydock. It will be crowned and ballasted in the usual way. The purpose is to facilitate the movement of fire apparatus in case of fire.

DREDGING IN OCTOBER.

Operations in Atlantic and Pacific Divisions Show an Increase over September.

The combined output of the dredges of the Atlantic and Pacific Divisions for October amounted to 1,542,184 cubic yards, as compared with 1,473,574 cubic yards for September, an increase of 68,610 cubic yards. Of the October excavation, 935,698 cubic yards were removed from the Canal prism, and 606,486 cubic yards from outside works. In the Atlantic Division, 314,778 cubic yards were taken from the Canal prism, and 473,482 cubic yards from outside works. In the Pacific Division, 720,920 cubic yards belonged to Canal excavation, and 33,004 cubic yards represented other operations. The dredging output in the Atlantic Division was 14,951 cubic yards more, and in the Pacific Division 53,659 cubic yards more, than in September.

The dredges in the harbor and channel section of the Atlantic Division removed 476,827 cubic yards of excavation, of which 428,712 cubic yards consisted of earth, and 48,115 cubic yards, of rock. Of the 335,571 cubic yards taken out by the suction dredge *Caribbean*, 136,559 cubic yards were removed between Mile 4 and the sea, 39,763 at Mile 5, 143,150 from the approach channel to Cristobal Harbor, and 16,099 from in front of Pier 11, all earth excavation.

Dredge *No. 1* worked the entire month in the Canal prism, and took out 15,016 cubic yards of earth and 26,180 cubic yards of rock. Dredge *No. 5* also worked the full month in the prism, taking out 78,125 cubic yards of earth, and 19,135 cubic yards of rock. The *Mindi* only worked two days during the month, and the balance of the time was under repairs. Its total output was 2,800 cubic yards of rock excavated from the approach channel to Cristobal Harbor. Dredge *No. 6* was laid up during the entire month undergoing repairs.

In the Gatun section, Dredge *No. 82* continued pumping south of the dam, while *No. 83* and *No. 85* continued work at Borrow Pit No. 1, north of the dam. All of these dredges were engaged on the hydraulic fill at Gatun Dam, and the combined output for the month was 311,433 cubic yards. At the end of the month the total of the hydraulic fill in the dam had been increased to 1,794,494 cubic yards.

The tabular statement of operations in the Atlantic Division follows:

Dredge.	Type.	Cu. Yds.
Caribbean	Suction	335,571
No. 1	Ladder	41,196
No. 5	Ladder	97,260
Mindi	Dipper	2,800
No. 82	Suction	94,054
No. 83	Suction	129,500
No. 85	Suction	87,879
Total		788,260

In the Pacific Division, the dredge *Culebra* was engaged the entire month in deepening the channel from Station 2240 seaward, and in digging a hole around the wreck of an old French ladder dredge, which had sunk opposite that station, in order to facilitate its removal. The *Mole* was at work from October 1 to 19 between Stations 2295 and 2320 in the bay, removing lumps from the bottom of the channel. From the 20th until the end of the month it was employed in scraping rock shoals at Stations 2225 and 2250. The *Badger* worked the entire month widening the cut between Station 2164 plus 75 and Station 2161 plus 75, a distance of 300 feet. The *Cardenas* was employed from the 1st to the 23d in widening the cut from Station 2213 plus 50 to Station 2206 plus 25, a distance of 725 feet. On the 23d the dredge was laid up for repairs, remaining in the basin until the 30th, when it was put into commission again at its former position. The *Marmot* continued working north from Station 2123 plus 50 to Station 2119 plus 25, a distance of 425 feet. The *Gopher* worked on a night shift from October 1 to 7 between Station 2237 plus 50 and Station 2234, deepening the cut on the east bank of the Canal. On the 8th the dredge was put into position at Point Chamé, and removed a total of 11,900 cubic yards of sand. The *Sandpiper* worked the entire month in the south end of the Miraflores lock site, and 18,994 cubic yards of its total output of 21,104 cubic yards were pumped into the core of the west dam.

The tabular statement of operations in the Pacific Division follows:

Dredge.	Type.	Cu. Yds.
Culebra	Suction	382,952
Mole	Ladder	70,600
Badger	Ladder	98,063
Cardenas	Dipper	35,840
Marmot	Ladder	125,663
Gopher	Ladder	*19,702
Sandpiper	Suction	21,104
Total		753,924

*Includes 11.900 cubic yards of sand dredged at Point Chamé.

Excavation by Contract.

The contract for excavation in the Canal prism north of Barbacoas Bridge has been let to R. W. Hebard at 35 cents a cubic yard. The total amount to be excavated is 160,947 cubic yards in six sections. The statement in THE CANAL RECORD of November 17 that contracts had been made with four distinct persons for this work was in error. The bids were canvassed as published, but the contract was not let until November 22.

Missing Men.

The American Legation in Panama would like to have any information obtainable as to the whereabouts of John J. Daley, employed as a bricklayer by the Commission up to March 16, 1909, and later heard from as in Philadelphia.

Anyone having knowledge of the whereabouts of A. W. Feterly, or Leterly, is requested to communicate with THE CANAL RECORD. His wife in Brooklyn last heard from him in July, 1908, and would like further information.

The mother of S. Waterford, who left the employ of the Commission on February 10, 1909, is very anxious to hear some news of him. Information may be sent to THE CANAL RECORD.

Anyone knowing the whereabouts of W. G. Cheek, formerly in the employ of the Commission, is requested to communicate with THE CANAL RECORD.

Obituary.

Charles Edwards died at Colon Hospital on November 20. He was born in New York 39 years ago, and had been on the Isthmus about eight months, and most of that time was employed at Gatun. His wife and a son survive him.

STEAM SHOVEL RECORDS.

Work Done in the Central Division During October, 1909.

During the month of October the total amount of material excavated in the Central Division was 1,524,310 cubic yards, of which 328,013 cubic yards were classified as earth, and 1,196,297 cubic yards as rock. Of this quantity, 1,510,760 cubic yards were removed by steam shovels, and 13,550 cubic yards by hand, all of which was taken from the Canal prism.

The high record for the month was made by shovel No. 208, working in the Culebra District, which excavated 57,617 cubic yards of rock and earth in 26 working days. Shovel No. 224 working 25 days in the Culebra District excavated 51,711 cubic yards of rock and earth, the second best record for the month.

The best record for a shovel in the 70-ton class was made by shovel No. 122 working in the Bas Obispo District, which excavated 33,088 cubic yards of earth in 24 working days.

Shovel No. 224 in the Culebra District, made the high record for one day by excavating 3,116 cubic yards of rock and earth on October 22.

Shovel No. 127, working in the Tabernilla District, excavated 1,850 cubic yards on October 30, the high record for one day for a 70-ton shovel during the month.

Monthly records are computed by place measurement, while the daily records are based on car measurement. The best records for the month and for one day in each district are shown below:

Shovel No.	Cubic Yards.			No. of days at work.
	Earth.	Rock.	Total.	
TABERNILLA DISTRICT.				
258	26,231	11,242	37,473	25
127	16,864	11,243	28,107	26
BAS OBISPO DISTRICT.				
229	18,723	28,085	46,808	24
108	45,424		45,424	26
EMPIRE DISTRICT.				
213		47,203	47,203	26
212		43,992	43,992	24
CULEBRA DISTRICT.				
208		57,617	57,617	26
224		51,711	51,711	25

BEST RECORDS FOR ONE DAY.

Shovel No.	Location.	Date.	Character of material excavated.	Cubic yds. excavated.
258	Tabernilla	Oct. 28	Earth	2,190
127	Tabernilla	Oct. 30	Earth	1,850
229	Bas Obispo	Oct. 9	Rock and earth	2,673
229	Bas Obispo	Oct. 7	Rock and earth	2,624
221	Bas Obispo	Oct. 25	Rock and earth	2,052
225	Empire	Oct. 18	Rock	2,640
232	Empire	Oct. 19	Rock	2,584
224	Culebra	Oct. 22	Rock and earth	3,116
206	Culebra	Oct. 11	Earth	2,922

Monthly Kangaroo Dance Discontinued.

THE CANAL RECORD:

Beginning with the month of January, 1910, the regular monthly Kangaroo dance, heretofore held at Empire on the first Saturday night in each month, will be discontinued. The informal Tuesday night dance will be held each week as heretofore. By order of the Court: E. C. MILLS,
Clerk pro tem.

SOCIAL LIFE OF THE ZONE.

Women's Clubs.

The meetings of the Empire Woman's Club are held in the Commission clubhouse on alternate Thursday afternoons and the attendance is usually good. Nearly all the members are newcomers in Empire, and considerable interest in club matters is displayed. The work for the year is not yet outlined, but temporary committees are working along special lines. The club will hold a Christmas bazaar in the clubhouse on the evening of December 1. At the meeting of the club on November 11 a reception was tendered to the teachers of the Empire and Culebra public schools. Several Empire residents were also present. A short business meeting preceded the reception. Refreshments were served.

Mrs. H. C. Ball, president of the Empire Woman's Christian Temperance Union and head of the Union in the Canal Zone, has returned to the Isthmus.

The social meeting of the Pedro Miguel Woman's Club was held at the home of Mrs. T. T. Curran, Culebra, on Wednesday afternoon, November 16. Card games were the feature of the afternoon, prizes being won by Mrs. George Brown and Mrs. H. Girdner. Refreshments were served by the hostess. The club will hold its Christmas bazaar the second week in December. The exact date has not yet been fixed. For the Christmas entertainment the Woman's Club will cooperate with the Sunday school in arranging details.

The business meeting of the Gorgona Woman's Club was held in the clubhouse on Thursday afternoon, November 16. There will be no meeting Thanksgiving week, but the regular schedule will be resumed in December, when the first meeting will be held at the home of Mrs. A. J. Sweet. On December 9 the art department will meet at the home of Mrs. W. H. McCann and will take up the embroidery work left over from last year. The business meeting will be December 16. There will be no meeting in Christmas week, but the chairman of the literature department will entertain at her home on Thursday, December 30. Lessons in parliamentary law will be inaugurated at this meeting. The club will cooperate with the Young Men's Christian Association, the Sunday school, and other organizations in the arrangements for the Christmas celebration. The club is arranging for an entertainment to take place early in December.

The Paraiso Woman's Club holds its meetings weekly on Thursday afternoon, and for some weeks past every member has been present at each meeting. The recent dance held by the club netted over $20. A second entertainment is projected.

Other Events.

The Card Club of Twelve, organized at Paraiso in 1908, meets at the homes of members on Friday afternoons. On November 19, Mrs. Leftwich entertained the club at her home in Pedro Miguel. Mrs. Mansberger has arranged to entertain the club at her home in Paraiso on November 26.

The annual memorial service of the Kangaroos will be held at the National Theatre, Panama, on Sunday, December 5. A special program of music is being arranged.

The Culebra Bachelors' Club gave a dance at the clubhouse on Saturday evening, November 13. There was an unusually good attendance, a special train from Pedro Miguel bringing a large number of guests.

The Kangaroos will hold a dance at Lincoln House, Colon, on Thanksgiving Eve. A special train will be run from Panama for the accommodation of the guests, leaving at 6 o'clock p. m. Stops will be made at 14 stations along the line. The train is expected to arrive at Colon at 8.15.

The Elite Club of Las Cascadas gave an anniversary dance on Friday evening, November 12. Music was furnished by the Tivoli orchestra and special refreshments were served. The club was organized one year ago. There are 40 members. Regular dances are given on the second Friday in the month.

The auxiliary order of Pythian Sisters, Temple No. 1, holds its meetings at Empire on the fourth Wednesday in the month. Mrs. E. C. Miller of Colon is most excellent chief.

Bishop Albion W. Knight of the Protestant Episcopal diocese of Cuba will make his annual visit to the Isthmus during the two weeks beginning November 29. A reception will be tendered in his honor by the Woman's Guild of St. Luke's Church, Ancon, at the residence of Archdeacon Bryan. This reception will take the place of the annual reception given by the guild to the residents of Ancon, Balboa, and Corozal.

PERSONAL.

Lieut.-Col. John L. Phillips, and Dr. A. B. Herrick, returned from their leave in the States on the *Panama*, arriving at Cristobal on November 21.

Ven. Archdeacon Henry B. Bryan returned on Monday, November 15, on the *Prinz Joachim*, by way of Kingston, Jamaica, from a visit to Barranquilla, Santa Marta, and other points in Colombia, where he looked over the work of the Panama mission of which he is the head.

Mr. W. A. Taylor of the Bureau of Plant Industry, and Mr. H. H. Bennett of the Bureau of Soils, Department of Agriculture, Washington, D. C., arrived at Cristobal on Sunday, November 21, on the *Panama*, to investigate the soil conditions and agricultural possibilities in the Canal Zone.

Medical Supervisor, Indian Service.

A Civil Service examination will be held at Culebra, in the office of the Chairman, on Saturday, November 27, for the position of Medical Supervisor in the Indian Service. The entrance salary of the position is $250 a month and expenses. Applicants must show that they have had at least three years' experience in medicine since graduation from a reputable medical college, and have had special training and experience in connection with tuberculosis and trachoma. Applicants must accompany their applications with certificates from reputable physicians showing that they are free from tuberculosis in any and every form. Age limit, 20 years or over on the date of the examination. Only five sets of papers will be forwarded to the Isthmus, and qualified persons desiring to compete in the examination should communicate at once, preferably by telephone, with Mr. John K. Baxter in the office of the Chairman, Culebra.

The Sunday schedule for trains on the Panama railroad will be in effect on Thanksgiving Day.

THANKSGIVING.

The President's Proclamation.

By the President of the United States of America. A Proclamation:

The season of the year has returned when in accordance with the reverent custom established by their forefathers the people of the United States are wont to meet in their usual places of worship on a day of thanksgiving appointed by their civil magistrate to return thanks to God for the great mercies and benefits they have enjoyed. During the past year we have been highly blessed. No great calamities of flood, tempest or epidemic of sickness have befallen us. We have lived in quietness, undisturbed by wars or rumors of wars. Peace and plenty, bounteous crops and great industrial production animate a cheerful and resolute people, and all with renewed energies turn to beneficent industry and material and moral progress.

It is altogether fitting that we should humbly and gratefully acknowledge the Divine source of these blessings. Therefore, I hereby appoint the 25th day of November a day of thanksgiving, and call on the people on that day to lay aside their usual vocations, repair to their churches and unite in appropriate services of praise and thanks to Almighty God. WM. H. TAFT.

Thanksgiving Day Service.

A national Thanksgiving Day service will be held at Ancon chapel on Thursday at 9.30 a. m. The public is cordially invited to attend. There will be special music, and the church will be decorated in the national colors by the Woman's Guild. The new lectern presented by Mrs. DeKonstein will be dedicated. Archdeacon Henry B. Bryan will officiate.

Baseball Notes.

The baseball season in the Isthmian League will open on Thanksgiving Day with a game between Ancon and Empire at the Ancon Park, and one between the Gorgona team and the Marines at Gorgona. On Sunday, November 28, Ancon plays Gorgona at Gorgona, and the Marines play Empire at Empire. The games at the Ancon Park will start at 3.30 p. m., and those at the Empire and Gorgona parks at 2.30 p. m. The following umpires have been chosen: John Irwin of Pedro Miguel, Willis Cooling of Gorgona, and James H. Murray of Las Cascadas.

A dance will be given at the Cristobal clubhouse on Saturday evening, November 27, for the benefit of the Commissary-Subsistence baseball team in the Atlantic League.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Empire, C. Z., on Sunday, November 28, 1909, at 6 p. m. The program follows:

1	March—*Boston Commandery*	Carter
2	Selection—*The Midnight Sons*	Hubbell
3	Flower Song—*Adoration*	Barnard
4	*a* *Pigeon Wing Rag*	Johnson
	b Schottische—*Four Little Blackberries*	O'Connor
5	Overture—*Poet and Peasant*	Suppe
6	Serenade—*La Paloma*	Xradier
7	Potpourri of Southern Melodies	Lampe

Introducing "Swanee River," "Listen to the Mocking Bird," "My Old Kentucky Home," "Arkansas Traveler," "Massa's in the Cold, Cold Ground," "Zip Coon," "Old Black Joe," and "Dixie."

8	*Gloria from 12th Mass*	Mozart
9	Selection—*Maritana*	Wallace
10	March—*Flag of Victory*	Von Blon

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at the Hotel Tivoli on Sunday, December 5.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

REPORT FOR OCTOBER.

Total membership	1,077
Total number of bowling games	3,932
Number different tournaments, billiard, pool, chess, etc	8
Total number of tournament players	68
Total number of pool and billiard games	13,841
Total income from soda fountains	$1,768.05
Number different men using gymnasiums	128
Total attendance of men using gymnasiums	485
Number enrolled in chess and checker clubs	15
Number enrolled in glee clubs	9
Number enrolled in dramatic and minstrel clubs	10
Number enrolled in camera clubs	77
Number enrolled in Bible clubs	5
Number of members of library	565
Total number of books withdrawn	1,423
Number of Sunday meetings	1
Attendance	150
Number of local entertainments	10
Attendance	862
Number of functions outside association management	8
Attendance	760
Number of afternoons for women	29
Attendance	422
Number evening functions to which women were invited	11
Attendance	775
Different men on committees	34
Number of men called on in hospitals	205
Number of letters written at public tables	5,400
Total attendance at clubhouses	48,390
Average attendance per day	1,595

BOYS' DEPARTMENT (AGES 10-16).

Number of members	56
Number of afternoons open to boys	54
Attendance (average per afternoon)	42
Total attendance in systematic gymnasium work	536
Outings and other special features	4

CULEBRA.

The following men are entered in the chess tournament: Stearns, Duboise, Warner, McCarney, Wilson, Herrington, Vogel, Marshall, and Morgan.

The high score for the month and rag time bowling tournament are as follows: High score—Edwards 224, Case 206, Winters 220. Rag time tournament—Lamster and Dougherty, 1,099; Dougherty and Winters, 1,028; Lamster and Winters, 1,040. The rag time tournament consists of two men rolling three consecutive games and counting pin fall; the same two men cannot roll with each other again, thus permitting an equal chance of three high games for all entries.

The following men will enter the Thanksgiving Day bowling tournament at Cristobal for individual and team honors: Lamster, Dougherty, Herrington, Winters, Case, and Edwards.

A camera club was organized Friday night and a committee was appointed to draw up a constitution and nominate officers.

The week of prayer services were held each day of the past week with an average attendance of six.

EMPIRE.

Mr. J. A. Shaughnessy has been elected manager of the Empire baseball team.

The Bible club will meet from 7 to 8 o'clock on the night of November 26, instead of on Thanksgiving Day.

GORGONA.

An indoor baseball game will be played on Wednesday evening of this week between the local team and the Culebra team.

A concert will be given Saturday evening, November 27, by the orchestra from the Hamburg-American steamship *Prinz August Wilhelm.*

An entertainment will be given on Thanksgiving night in the Y. M. C. A. hall. The program will consist of instrumental and vocal solos, comedy sketches, readings, and selections by the Gorgona band. Admission free. Men, women and children of Gorgona are cordially invited. The entertainment will begin at 8.15, immediately following the praise service at the chapel.

The Gorgona bowling team is elated over the fact that it "got even" with Empire last Saturday night by taking two out of three games. It was the last match game of the tournament between the two teams.

The first rehearsal of the Christmas cantata, "Santa Claus' Reception" took place last Monday afternoon. Miss O'Connor is chairman of the committee that will instruct the children.

The supply of Gorgona pennants lasted one week. More will be ordered in a few days.

The new graphophone records recently received have proved very popular.

Those who desire to enter the chess tournament will please hand in their names before Friday of this week at the secretary's desk. President Strong announces that a chess "school" will also be held before and after the tournament games on Friday nights, for the benefit of those who desire to learn the game, or to become more proficient.

The Cristobal instrumental quartet gave a delightful concert at the clubhouse last Thursday evening.

CRISTOBAL.

An indoor baseball game between the Y. M. C. A. team and a team from Lincoln House, played last Friday evening, resulted in a score of 45 to 15 in favor of the Lincoln House team.

The new handball courts are now completed and ready for use.

The gymnasium floor has just been newly lined for indoor baseball and basketball.

The smoker which was scheduled for Thanksgiving evening has been postponed until Friday night, December 3.

An informal track meet will be held at Cristobal at 9.30 o'clock on Thanksgiving morning.

GENERAL NOTES.

The lectures on "Indian Life" by Mr. and Mrs. Edward H. Kemp will begin this week. The first series of lectures will be on the Hopi Indians, instead of the Sioux, as advertised. The dates for the first series are as follows: Wednesday, November 24, Cristobal; Thursday, November 25, Empire; Friday, November 26, Culebra; Tuesday, November 30, Gorgona.

A meeting was held at Gorgona Monday night to organize an indoor baseball league among the four Y. M. C. As. It is expected the league will continue about three mohths, beginning with January.

Tug Service—Porto Bello and Nombre de Dios.

Effective November 18, 1909, the tug service to Porto Bello and Nombre de Dios will be as follows:

PORTO BELLO SERVICE.

1. A tug will leave Dock 13, Cristobal, daily, for Porto Bello only, as soon as practicable after 9.30 a. m., Sundays excepted; and as soon as practicable after 6 p. m., Saturdays and Sundays excepted, and as soon as practicable after 7 p. m., on Sundays.

On each of these occasions, the tug will tow such barges as may be destined for Porto Bello. Upon arrival there the provisions, if any, will be discharged as rapidly as possible, and the tug returned without delay to Cristobal, bringing whatever barges there may be loaded with crushed rock. The tug will not wait for rock to be crushed, but will wait when one or more barges may be filled by loading directly from the shipping bins. On Saturdays, the tug will return, leaving Porto Bello at 5.30 p m., in order that employes desiring to visit Cristobal may have an opportunity to do so.

The *Mariner* should be used for this service as far as practicable, and should, upon arrival at Cristobal, continue with its tow direct to the points of destination of barges. When the *Mariner* is used on this schedule, it will leave the Cableway, Gatun, not earlier than 3 p. m., and pick up on the way down all rock barges at that or other points for Porto Bello; and will not stop at Dock 13, or elsewhere, between Gatun Locks and Porto Bello. Similarly, the *Mariner* will leave the Cableway not earlier than 6 a. m.

When another tug than the *Mariner* is used on the Porto Bello crushed rock service, it will be arranged to have all available empties at Dock 13, at the hour scheduled above for leaving with same for Porto Bello.

NOMBRE DE DIOS SERVICE.

2. A tug will leave Dock 13, Cristobal, as soon as practicable after 6 p. m. daily, Sundays excepted, with all available empty sand barges and proceed direct to Nombre de Dios, returning immediately from that place with such sand barges as may have been loaded. The tug on the Nombre de Dios service will be at Dock 13 on such days as the Subsistence Officer may desire, not later than 5 p. m., to receive provisions for Nombre de Dios.

3. Upon arrival of loaded barges at Dock 13, every effort should be made to rush them forward to proper points, and as soon as unloaded all barges should be brought to Dock 13, except in case of stone barges, when the tug *Mariner* is on the Porto Bello service, when paragraph 1 of this letter will apply.

4. As soon as the pipe line is laid on the west Cableway dock, barges should receive oil while being discharged at the Gatun Locks, to save time.

H. W. STICKLE, *Assistant Engineer.*

Cristobal, November 17, 1909.

OFFICIAL CIRCULARS.

Requisitions for Gold Employes.

CULEBRA, C. Z., November 20, 1909.

HEADS OF DEPARTMENTS AND DIVISIONS:

Beginning Monday, the 22d instant, all business relating to requisitions for gold employes will be handled in this office. Correspondence concerning such requisitions should be addressed to the Assistant to the Chairman.

GEO. W. GOETHALS, *Chairman.*

Temporarily in Charge of Clubhouses.

CULEBRA, C. Z., November 12, 1909.

CIRCULAR NO. 288-A:

During the absence, on account of sickness, of Mr. Floyd C. Freeman, Mr. R. G. Goodman will temporarily assume the duties of superintendent of clubhouses, effective this date.

GEO. W. GOETHALS, *Chairman.*

Rules Governing the Issuance of Sick Certificates to Employes "Sick in Quarters."

ANCON, C. Z., November 16, 1909.

A daily register is kept of all employes who are confined to their quarters because of illness and are, therefore, under the professional care of a physician of the Sanitary Department.

The greatest care and accuracy are exercised in keeping this register of employes sick in quarters, and sick certificates will be issued only in accordance with the reading of the register, and in order that the names of sick employes may be entered on the register to cover full time of sickness they *must be seen on each day* of illness by a physician.

An employe visiting the dispensary, obtaining treatment, and then absenting himself from his duties without being *specifically instructed* to do so by the attending physician, will not be given a certificate covering loss of time.

An employe who becomes sick in quarters and is unable on account of his illness to report to the dispensary will notify a physician of his condition and if, in the opinion of the physician visiting him, he is too ill to perform his duties, his name will be entered in the sick register as "sick in quarters" from the hour of notification by him to the attending physician. The sick certificate will, therefore, cover the time of illness from the hour of receipt of notification by the attending physician, to the time of discharge for return to duty, or transfer to hospital.

Employes will not be permitted to remain sick in quarters if, in the opinion of the physician, time lost through illness will be lessened by a transfer of patient to hospital.

An employe registered as "sick in quarters" will be governed by Circular No. 214, of the Chairman and Chief Engineer, under date of October 2, 1908, which reads as follows:

"A number of cases of malingering have recently been reported. If any employe is too ill to work he is expected either to go to the hospital or to remain in quarters, except for such time as may be necessary to consult a physician or go to a dispensary. In future, any employe found loafing or loitering on any day for which he presents a sick certificate will be dismissed from the service."

WM. C. GORGAS, *Chief Sanitary Officer.*

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending December 1, 1909 (75th meridan time):

DATE.	Low.	High.	Low.	High.	Low.
	A. M.	A. M.	A. M.	P. M.	P. M.
Nov. 25	....	1.25	7.48	2.00	8.09
Nov. 26	....	2.18	8.38	2.50	8.58
Nov. 27	....	3.06	9.26	3.38	9.46
Nov. 28	....	3.53	10.13	4.24	10.35
Nov. 29	....	4.36	10.56	5.10	11.21
Nov 30	....	5.23	11.44	5.56	....
			P. M.		
Dec. 1	12.10	6.08	12.33	6.42	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Married.

BUTLER—SCHUBER—At the Cathedral in Panama on Monday evening, November 22, Frances Carlota Schuber, daughter of Mr. and Mrs. James Buchanan Schuber of Panama, to Second Lieutenant Henry Mithoff Butler of the United States Marine Corps at Camp Elliott, Canal Zone.

Launch Service to Taboga.

The steamer *Sanidad* leaves the dredge landing at Balboa at 9 o'clock Tuesday, Thursday and Saturday mornings. On the return trip it arrives at Balboa about 4.30 p. m. in time to make connections for the 5.30 train at Panama.

COMMISSARY DEPARTMENT.

Price of Bread Reduced.

CIRCULAR NO. 103:

Effective November 20, 1909, the price of bread sold by the Commissary Department will be reduced to 4 cents per loaf.
JOHN BURKE, *Manager.*

Approved:
EUGENE T. WILSON, *Subsistence Officer.*

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning November 24:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	27
Chops	per lb	29
Cutlets	per lb	29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	4
Soup	per lb	6
Stew	per lb	10
Corned	per lb., 12, 14,	16
Chuck roast	per lb	14
Pot roast	per lb	16
Rib-roast, second cut (not under 3½ pounds)	per lb	19
Rib-roast, first cut (not under 3 pounds)	per lb	21
Sirloin roast	per lb	22
Rump roast	per lb	22
Porterhouse roast	per lb	22
Steak, Chuck	per lb	15
Round	per lb	16
Rib	per lb	21
Sirloin	per lb	22
Porterhouse	per lb	22
Rump	per lb	22
Tenderloin	per lb	27

MISCELLANEOUS.

Livers—Beef	per lb	11½
Calf	each	65
Sausage—Pork	per lb	17
Bologna	per lb	17
Frankfurter	per lb	17
Leberwurst	per lb	17
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	30
Oysters	keg	90
Eggs, fresh	dozen	†38

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, fatted	each	1.30
medium weight	each	90
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50

CURED AND PICKLED MEATS.

Hams, York Cut, Finnis and Fisher	per lb	30
Bacon—Breakfast, whole piece	per lb	27
Breakfast, sliced	per lb	29
Ham—Sugar-cured, sliced	per lb	§25
One-half, for boiling	per lb	§21
Westphalia	per lb	*36
Hocks	per lb	‡8
Sugar cured	per lb	20
Beef, salt, family	per lb	10
Pork, salt	per lb	15
Ham, boiled	per lb	28
Ox tongues	each	1.00
Pigs' feet	per lb	8
tongues	per lb	16

DAIRY PRODUCTS.

Butter—Prints, prime quality	per lb	†45
Cheese—Roquefort	per lb	45
Philadelphia Cream	cake	*10
Young America	per lb	22
Swiss	per lb	31
Edam	each	1.05
Camembert	per lb	28
Neufchatel	each	6
Gouda	per lb	34
Parmesan	bottle	20
French cheese in tins—Camembert, Brie, Neufchatel	1-lb tin	20
Milk, Briarcliff	bottle	**25
Butter	bottle	**15

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	*5
Lettuce	per lb	*10
Potatoes, white	per lb	3½
sweet	per lb	2½
Onions	per lb	3
Squash, Hubbard	per lb	5
Yams	per lb	3½
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	4
Cucumbers	per lb	†8
Lemons	dozen	24
Cabbage	per lb	*3
Apples	per lb	*5
Oranges	dozen	12
Grapefruit	each	4

*Indicates reduction from last list.
**Indicates 5 cents allowed for return of bottle.
†Indicates advance on last list.
‡Sold only from Commissaries; no orders taken for delivery.
§Sold only from Cold Storage and not from Commissaries.

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal and Colon, during the week ending November 20, 1909, with supplies for the Isthmian Canal Commission:

Prinz Joachim, November 15, from New York, with 5 tons pipe fittings, for stock.

Advance, November 16, from New York, with 991 copper ingots, for Gorgona foundry; 189 bundles galvanized iron, 185 cases iron nuts, 250 kegs rivets, and 32 cases electric fuses, for stock; 150 tons castings, for lock construction; and a miscellaneous cargo consisting of 2,802 packages, weighing 450 tons.

Ennisbrook, November 18, from Mobile and Gulfport, with 200 tons pig iron, for Gorgona foundry; 59,282 feet white oak lumber, for car repairs; 227,207 feet yellow pine lumber; 607 piling, and 8,000 feet switch ties, for stock.

Atenas, November 18, from New Orleans, with 67 piling, for Gatun; 13,362 feet white oak lumber, for car repairs; 62 tons castings, for steam shovel repairs; 39 reels wire rope, for stock, and 83 creosoted poles, for Empire.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., November 24, 1909.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Akins, Carl C.
Atheling, Frederick
Bartley, Jno. J.
Bauche, A. M.
Clarke, Master De Wolfe
Clarke, De Wolfe (2 cards)
Classon, Herr J.
Cooney, Thomas F.
Cooper, Gilbert K.
Fields, J. B.
Gilmartin, Charles A.
Humphrey, W J.
Horman, F. L.
Howe, Herbert H.
Howell, Corpl. D. A.
Jones, Charles H.
Johnson, Mrs. Constantia
Kellar, Milton G.
Kelly, Capt. Edward
Mayott, Jos. E.
Miller, Bessie de
Merrowitz, J.
McTucker, E. (Camp Totten)
O'Neal, Thomas
Peders, George M.
Rector, Miss Josephine
Selenkow, Jacob
Tucker, Mr.
Vergue, John De La
Vincenza, Burgio
Vincenza, Avanzato
Willing, R. E.

Proposals for Erecting Commission Buildings.

Sealed proposals for labor only will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., November 25, 1909, and then opened, for the erection by contract of a recreation hall and a commissary building at Porto Bello. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $200 when the contract is signed.
C. A. DEVOL,
Chief Quartermaster.

Proposals for Commissary Building at Corozal.

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., December 6, 1909, and then opened, for the erection by contract of a commissary building at Corozal. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $150 when the contract is signed.
C. A. DEVOL, *Chief Quartermaster.*

Proposals for Storehouse at Porto Bello.

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., December 6, 1909, and then opened, for the erection by contract of a storehouse at Porto Bello. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $150 when the contract is signed.
C. A. DEVOL, *Chief Quartermaster.*

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO COLON.

Allianca	P. R. R.	Saturday	Nov. 20
Prinz Aug. Wilhelm	H.-A.	Saturday	Nov. 20
Colon	P. R. R.	Saturday	Nov. 27
Tagus	R.-M.	Saturday	Nov. 27
Advance	P. R. R.	Thursday	Dec. 2
Prinz Joachim	H.-A.	Saturday	Dec. 4
Panama	P. R. R.	Thursday	Dec. 9
Oruba	R.-M.	Saturday	Dec. 11
Allianca	P. R. R.	Tuesday	Dec. 14
Prinz Aug. Wilhelm	H.-A.	Saturday	Dec. 18
Colon	P. R. R.	Tuesday	Dec. 21
Magdalena	R.-M.	Saturday	Dec. 25
Advance	P. R. R.	Monday	Dec. 27
Prinz Joachim	H.-A.	Saturday	Jan. 1
Clyde	R.-M.	Saturday	Jan. 8
Prinz Aug. Wilhelm	H.-A.	Saturday	Jan. 15
Thames	R.-M.	Saturday	Jan. 22

Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

COLON TO NEW YORK.

Panama	P. R. R.	Saturday	Nov. 27
Oruba	R.-M.	Wednesday	Dec. 1
Allianca	P. R. R.	Thursday	Dec. 2
Prinz Aug. Wilhelm	H.-A.	Tuesday	Dec. 7
Colon	P. R. R.	Thursday	Dec. 9
Advance	P. R. R.	Tuesday	Dec. 14
Magdalena	R.-M.	Wednesday	Dec. 15
Panama	P. R. R.	Tuesday	Dec. 21
Prinz Joachim	H.-A.	Tuesday	Dec. 21
Allianca	P. R. R.	Sunday	Dec. 26
Clyde	R.-M.	Wednesday	Dec. 29
Colon	P. R. R.	Sunday	Jan. 2
Prinz Aug. Wilhelm	H.-A.	Tuesday	Jan. 4
Advance	P. R. R.	Saturday	Jan. 8
Thames	R.-M.	Wednesday	Jan. 12

A fortnightly service of the steamers Ancon and Cristobal will be maintained as nearly as possible but changes from the schedule may be found necessary. The following is the schedule:

NEW YORK TO CRISTOBAL.

Ancon	P. R. R.	Monday	Nov. 22
Cristobal	P. R. R.	Wednesday	Dec. 1
Ancon	P. R. R.	Wednesday	Dec. 15

CRISTOBAL TO NEW YORK.

Ancon	P. R. R.	Monday	Dec. 6
Cristobal	P. R. R.	Wednesday	Dec. 15
Ancon	P. R. R.	Wednesday	Dec. 29

NEW ORLEANS TO COLON.

Turrialba	U.F.C.	Saturday	Nov. 20
Abangarez	U.F.C.	Saturday	Nov. 27

COLON TO NEW ORLEANS.

Turrialba	U.F.C.	Tuesday	Nov. 30
Abangarez	U.F.C.	Tuesday	Dec.

COLON TO BARBADOS, CALLING AT TRINIDAD.

Tagus	R.-M.	Tuesday	Dec. 7
Oruba	R.-M.	Tuesday	Dec. 21

A ship of the United Fruit Company's line sails from the dock at Colon, at 3 p. m., Tuesday of each week.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Tampican* for New Orleans, via Kingston, Ja., on or about December 4.

The steamers *David* of the National Navigation Company, and the *Taboga* of the Pacific Steam Navigation Company, leave Panama, for David, province of Chiriqui, and intermediate points, the first and third weeks of each month.

Vessels arriving at and departing from the port of Balboa in the week ending November 13, were the following: Arrivals—November 12, *Chiriqui*, from intermediate ports; November 12, *Arica*, from Guayaquil; November 14, *Barracouta*, from Central America; November 15, *Aysen*, from south ports; November 17, *San José*, from San Francisco; November 18, *Quito*, from intermediate ports; November 18, the yacht *Cavalier*, from Guayaquil.

Departures—November 15, *Newport*, for San Francisco; November 16, *Loa*, for south ports; November 19, *Chiriqui*, for intermediate ports; November 20, *Arica*, for Guayaquil; November 20, the yacht *Cavalier*, for Guayaquil.

CANAL RECORD

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The Canal Record

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The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Chairman's Monthly Report.

The report of the Chairman of the Isthmian Canal Commission for the month of October is published in full in other columns of this issue of THE CANAL RECORD. It gives a detailed account of the progress of Canal work in all departments and divisions.

Recovering from the Flood.

Although the Chagres River subsided after the freshet of November 17–20 sufficiently to allow a resumption of work in most places, a series of small rises in the river continued to interfere with the work of the steam shovels in the Gatun Lake region. The two shovels working at Gorgona are on the 50-foot elevation, and those at Mamei, Caimito, and Tabernilla on the 40-foot level. Every time the water rises above these elevations it interferes with the work. The pumps in Culebra Cut at Bas Obispo have been at work steadily since November 26, and most of the shovels have resumed excavating. The heavy rains, however, keep the pumps busy handling the water that collects in the sump.

In the Atlantic Division the water is still running through the spillway at Gatun, and work on rebuilding the trestles over the West Diversion will not be undertaken until the water in the river drops to a lower stage. No effort has been made to unwater the pit at Mindi, and the steam shovels and pumps there are still under water. A proposition has been made to put a suction dredge at work to take out the earth that has been sliding into the prism before the cut is unwatered for the rock excavation; and this plan is under consideration.

A rise on the 29th brought the level of the river at Gamboa to 63.2 feet, and at Gatun to 15.7 feet. The stages of the Chagres River during the week ending November 27, are shown in the following table:

	Stations.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft..	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Nov. 21....	132.7	97.8	55.0	32.7	21.5	19.9
Monday, Nov. 22 ..	140.5	102.7	59.0	23.5	18.8	17.6
Tuesday, Nov. 23..	137.5	100.6	61.0	26.5	16.8	15.0
Wed'esday, Nov. 24	132.5	97.7	59.7	26.1	17.1	15.3
Thursday, Nov. 25.	131.9	97.0	55.3	22.7	16.4	14.6
Friday, Nov. 26....	133.0	97.8	55.2	21.6	14.8	13.5
Saturday, Nov. 27..	131.0	96.4	52.5	21.2	14.6	13.5

Building Gatun Locks.

A total of 6,278 cubic yards of concrete was laid in the south lock and forebay at Gatun during the week ending November 27. On account of Thanksgiving Day, work was done on only five days, and the average was therefore 1,256 cubic yards a day. On November 23, work was stopped at 2 o'clock in the afternoon on account of the heavy rain, and at that time 926 cubic yards had already been laid. The record since the beginning of the work is as follows:

	Cubic Yards.
August (seven days)	1,298
September (26 days)	11,934
October (31 days)	29.378
November 1 to 6	6.692
November 7 to 13	7,908
November 15 to 20	7.188
November 22 to 27	6,278
Total	70,676

The daily record for the week is as follows:

	Cubic Yards.
November 22	1.320
November 23	926
November 24	1.390
November 25 (holiday)	......
November 26	1,322
November 27	1,320

The head tower of lock cableway No. 2, which collapsed on the afternoon of September 24, has been repaired and was set at work again last week. The legs of the tower between the operating platform and concrete counterweight buckled, and the repairs consisted in jacking up the tower, putting in new legs and reinforcing them with concrete. To avoid a similar accident on the other towers the legs of all the towers have been reinforced.

Work on the auxiliary mixing plant in the forebay south of the locks is making satisfactory progress, and one of the steel towers to carry the side wall forms in the locks has been erected.

At Pedro Miguel Locks.

Concrete yardage placed in the Pedro Miguel Locks during the week ending Saturday, November 27 aggregated 2,306 cubic yards, or an average of 461 cubic yards for each of the five working days. The observance of Thanksgiving made one less working day, otherwise the total yardage would have been well up with the high record weeks. The output by days follows:

	Cubic Yards.
November 22	452½
November 23	385
November 24	420
November 26	480½
November 27	568
Total	2,306

The amount of concrete laid from the beginning of work on September 1, to November 27, inclusive, is as follows:

	Cubic Yards.
September	2,369½
October	8,396¼
November 1 to 6	2,236½
November 8 to 13	2,913
November 15 to 20	1,685½
November 22 to 27	2,306
Total	19,906¾

Recruiting of Laborers Forbidden.

A cable message from Washington dated November 26 states that the President signed an executive order on November 23 making it a misdemeanor to recruit laborers in the Canal Zone.

Colon Breakwater.

The Atlantic Division has been directed to make an investigation in Limon Bay from a point north of a line joining the end of the dredged channel, beyond the 40-foot contour, and a point about 1,000 feet south of Toro Point lighthouse, extending as far as the outermost proposed position of the Colon breakwater. The investigation will be made for the purpose of ascertaining the depth to rock and the nature of the material overlying the rock.

The Slide at Culebra.

On the night of Sunday, November 28, the material in the slide at Culebra that had become saturated by the incessant rain flowed into the pioneer cut of Culebra Cut and completely blocked the drainage ditch. Two steam shovels were put out of commission, and only one of the main construction tracks was left open. The work of opening the drainage ditch was begun immediately, but the slide retarded excavation in the south end of the Cut.

Enlargement of Gatun Jail.

Plans have been prepared at the office of the Constructing Quartermaster for a 14-foot, two-story extension on the north side of the police station and jail at Gatun. The present station belongs to the smaller type of this class of buildings, and at the time of its construction was adequate in size. Since the concentration of laborers at Gatun for work on the locks, dam and spillway the operations of the police force have greatly increased, until at the present time, the station has become one of the most important within the Zone. It has a constant force of 21 men, made up of 17 white offi-

NOTES OF PROGRESS.

(Continued.)

cers and privates, and four colored privates. Three men are detailed from this force, working in shifts of eight hours each, as guards at the cement shed and storehouses. It has been found more advisable to employ members of the police force for this work than the usual colored watchmen, and their services are paid for by the Atlantic Division.

The improvements to the jail contemplate the enlargement of the two cells on the first floor to 10½ by 17 feet, and the equipment of each of them with 12 standee berths. One of the cells will be provided with a toilet and shower bath; the other with a toilet only. With the increase in the size of the cells from 30 to 35 prisoners can be housed at one time. The second floor of the new part will be used as an extension of the present living quarters for the police. Verandas will surround the floors.

Mortar Pipe.

In the building of roadways and walks in the Zone, especially in the vicinity of Empire and Culebra, pipe made of mortar has been used with considerable success in the construction of culverts and drains. Some of it has been in the ground for upwards of two years and shows no signs of wear. It costs less than iron pipe of similar size, and the tests demonstrate that it is equally, if not more durable. The plant where this pipe is manufactured is located at Empire, and while the output is small owing to the limited facilities, enough is kept on hand to supply the ordinary demands. Collapsible iron forms are used, and the pipe is turned out in lengths of three feet, with a thickness of one and one-half inches. The pipe is made only in 18-inch size, and six lengths are finished in a day. The material used is sand and cement, two parts sand to one of cement. The average cost is 27 cents per foot, or 81 cents for each length, as compared with $1.25 as the cost of a similar length of standard iron pipe. The plant at Empire is operated by the municipal engineering forces of the Central Division.

West Culebra Improvements.

A gang of long-term prisoners was set at work on Friday, November 26 ditching for the installation of drains in West Culebra village. During the constant rains this section has been almost a bog, and the drains are designed to carry off the accumulation of storm water. A road will also be constructed from the village to a point known as the "cowpens." All this work is done gratis, the value of the work performed operating as a credit toward the prisoners' maintenance.

Balboa Sand Dock.

Two of the three cranes to be used in unloading sand at the new dock in Balboa are in position, and work on the third will be started within a few days. These cranes will be operated by current from the Miraflores power house, and in prosecution of the electrical arrangements, a substation has been erected close to the dock in which a 300-kw. converter will be installed. The new sand track to the dock is practically completed.

Balboa Light and Compressed Air Plant.

A committee has been appointed to consider the operation of the electric light and air compressor plant at Balboa and to report whether changes can be made that will result in economy of operation, and in the manner of using electric current and compressed air.

Cast Steel Side Stakes.

An experimental order of cast steel side stakes for Lidgerwood flat cars has been received at Gorgona shops. These stakes are designed to take the place of the present oak stakes reinforced with 5-16 inch steel plate, which is fitted into a high malleable iron stake pocket. The new stakes are in one piece, taking the place of both stake and pocket. A train of 19 cars, with nine stakes to a car, will be fitted up in order that a practical test may be made.

Washington Hotel.

A cabinet oven has been installed at the Washington Hotel at Colon, in which pan and Vienna bread and all the pastry used in the hotel are now made. The operations of the hotel show a profit for the months of July, August, and October, but in September there was a slight loss. The monthly expense statement includes the depreciation charge and all other overhead charges.

Porto Bello Rock Crushers.

Over 25,000 cubic yards of crushed rock were produced at Porto Bello during the month of November, an average of 1,000 cubic yards per working day. This does not represent the potential output of the quarries. The crusher, as the plant is now run, has a capacity of 3,600 cubic yards a day. The new crusher on order in the States is to be installed for the purpose of reducing the cost of crushing, and not because the present plant is unable to furnish as much rock as will be needed in the concrete plant at Gatun, when working to its full capacity. The new crusher will take all the rock as it is quarried, which the two large crushers now in use are not able to do. The present method is to break the large pieces of rock as they come from the quarry, by charges of dynamite. When the new crusher is installed, the cost of the labor charge in "dobeying" will be avoided.

Two High Schools Discontinued.

Effective on Monday, December 6, the high schools at Culebra and Gatun will be discontinued and the high school pupils at those places will be transferred to Cristobal. One teacher teaching high school studies at Culebra, and one at Gatun will be transferred to the Cristobal school. The object of the change is to enable the teachers to give more time to the high school pupils. Practically three years of high school studies are taught at each high school; by combining the classes it will be possible to lengthen the recitation hour and reduce the number of subjects taught by each teacher. Pupils will reach Colon on train No. 4, at 1.15 p. m., and school will be dismissed at 4.15 p. m., enabling them to go to their homes on train No. 7 leaving Colon at 4.30.

Christmas Entertainments.

On December 20, the Union Sunday school of Gatun will hold a tea, following which there will be a program of songs and drills by the children. The entertainment will conclude with a Christmas tree and distribution of presents. The Sunday school has a membership of 85. The average attendance during the past month was 65. Mr. O. L. Brownel is superintendent.

Meetings have been held in Paraiso by committees representing the Sunday school and the Kangaroos for the purpose of arranging for a Christmas celebration. The entertainment will be held on Christmas Eve and will consist of songs and drills by the children, followed by a musical program, and distribution of gifts. A supper will be served. The expenses of the entertainment will be met by the Kangaroos.

LABOR FORCE AND QUARTERS IN OCTOBER.

The report of the Chief Quartermaster for the month of October shows that of the 35,405 employes on the rolls of the Commission and Panama railroad on October 27, 23,411 were laborers for the Commission, 4,376 were on the "gold" roll of the Commission, and the remainder comprised the "gold" and "silver" forces of the Panama railroad. During the month the total of separations from the "gold" force of the Commission was 281, and of additions 325, making the net additions 44. This increase in the number of gold employes is due to the employing of 35 new machinists and a number of other skilled artisans.

The number of family quarters occupied by "gold" employes was 1,585, and the occupants numbered 4,735; bachelor quarters by "gold" employes, 2,103, and the occupants numbered 3,552, of whom 130 were women. The family quarters occupied by West Indians numbered 1,002, and the occupants 3,301; bachelor quarters, 251, number of occupants, 5,174. The family quarters occupied by European laborers numbered 317, and the occupants 839; bachelor quarters 130, and the number of occupants, 4,720.

The force actually at work on October 27, 1909, was as follows:

DEPARTMENT.	Monthly.	Artisans.					European Laborers.		West Indian Laborers.				Total Silver.	Total Gold.	Grand Total.
		44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	16 cents.	13 cents.	10 cents.	7 cents.			
Const'ct'n and Eng'r'ng.	2,973	23	49	334	1,039	2,142	3,075	637	945	2,902	4,643	297	19,059	3,273	22,332
Civil Administration....	172	..	..	1	2	14	......	....	......	......	3	....	192	321	513
Sanitation.........	617	..	..	4	3	8	......	2	1	1	267	7	910	370	1,280
Quartermaster's.........	1,014	4	2	41	165	199	291	22	5	3	841	14	2,601	226	2,827
Subsistence..............	631	..	..	1	2	......	......	....	......	......	......	....	634	60	694
Disbursements...........	8	..	..	....	......	......	......	....	......	......	......	....	8	24	32
Examinat'n of Accounts.	7	..	..	....	......	......	......	....	......	......	......	....	7	102	109
Totals................	5,422	27	51	381	1,211	2,363	3,366	661	951	2,906	5,754	318	23,411	4,376	27,787

Panama railroad force, 6,785; Panama railroad commissary force, 833.

CASTINGS FOR LOCKS.

Caisson Seats Manufactured by Gorgona Foundry.

Gorgona foundry has made the first delivery in an order for 955,008 pounds of gray iron castings for caisson seats in the locks at Gatun, Pedro Miguel, and Miraflores. These castings are L-shaped with stiffening webs, and will be placed on the ends of the walls and in the caisson sills, at the upper and lower ends of all the locks, occupying a position such as the jambs and sill of a door.

The primary object of these castings is to serve as a fill for the caissons that will be used at the head of the forebay, in case it be necessary to unwater the lock for examination or repairs. They will be a guard to the moveable dam, and will permit examination of the fill of the latter. They need not be provided for each lock flight as they can be towed from place to place. Two will probably be sufficient for the entire Canal. They will be provided with air chambers, which can be filled with water when it is desired to sink them in place. When at the proper point in the entrance to a lock a caisson will be turned so that it will lie across the channel with its ends resting against the cast iron seats, after which water will be let into the chambers. A dam will thus be formed across the end of the lock. The castings being made at Gorgona are to cover the ends of the walls, and to form a sill in the floor against which the caisson will rest when in place and where it will be held by the force of the water which it is keeping out of the lock chamber.

The greatest pressure to which these castings can possibly be subjected, under the conditions that will obtain, is about 500 pounds to the square inch, and this would be possible only at the angle between the wall and floor of the lock, and provided that the floor seats or sill took none of the stress. The castings have been designed to resist this maximum pressure. In general they are three feet wide on each face and increase from one to two inches in thickness, as the pressure increases from top to bottom. The castings are to be anchored to the concrete by means of wrought iron bolts running about four feet into the masonry and attached to the stiffening webs. The number of the bolts varies with the size of the casting.

The number and class of the pieces required, together with their weight, and the place at which they are to be used are shown in the following table:

Description.	Number.	Weight.		Number Required.		
		One piece.	Total.	Gatun.	Pedro Miguel.	Miraflores.
		Lbs.	*Lbs.*			
Bottom side seat........	12 lefts....	8,800	105,600	4	4	4
Bottom side seat........	12 rights...	8,800	105,600	4	4	4
Side seats....	36 rights...	4,535	163,260	12	8	16
	36 rights...	3,450	124,200	12	16	8
	12 lefts.....	2,864	34,368	4	4	4
	12 rights...	2,864	34,368	4	4	4
	24 rights...	1,655	39,720	8	....	16
	12 rights...	1,495	17,940	4	8	....
Top side seat	12 lefts......	1,545	18,540	4	4	4
	12 rights...	1,545	18,540	4	4	4
Sill seat......	48 rights...	2,569	123,312	16	16	16
	72 rights...	2,355	169,560	24	24	24
Total.......	300	......	955,008	100	96	104

These castings will be made from the regular gray iron run at Gorgona foundry, consisting of French and American scrap graded with American pig iron. The work will be done in connection with the other foundry work, and deliveries will be made as the material is required.

Civil Service Retirement Association.

A letter from the headquarters of the United States Civil Service Retirement Association to the Secretary of the local civil service board acknowledges the receipt of $7 in payment of the annual dues of 28 employes of the Commission who have joined the association. The appointment clerk of the Commission in Washington has been made a member of the executive committee of the association. More application blanks have been forwarded in the hope that more of the Canal employes in the classified civil service will become members.

The object is to procure retirement pensions for persons in the civil service who have completed a certain term of service (twenty years or more), and are unable to continue longer in it. The method of effecting this that has been received with most favor is to deduct a small per cent of each employe's salary each year and turn it into a fund, thus making the retirement system self-supporting. The object of the present association is to arouse interest in the general project, without regard to any particular scheme.

Memorial Services of I. O. P. K.

Services in memory of the deceased members of the Independent Order of Panamanian Kangaroos will be held in the National Theatre, Panama, on Sunday afternoon, December 5. There will be selections by an orchestra and songs by Mrs. Adolf Faure, Mrs. Charles W. Boxer, and the Empire quartet. Addresses will be made by the Hon. Joseph E. Lefevre, Rev. Wm. H. Decker, and Chief Justice H. A. Gudger. A special train will be run on the following schedule:

	South.	North.
Colon......................	12.00 Noon.	7.45 p. m.
Gatun......................	12.18 p. m.	7,25 p. m.
Tabernilla................	12.55 p. m.	6.45 p. m.
San Pablo.................	1.00 p. m.	6.41 p. m.
Gorgona...................	1.13 p. m.	6.27 p. m.
Matachin..................	1.18 p. m.	6.22 p. m.
Bas Obispo................	1.22 p. m.	6.18 p. m.
Las Cascadas.............	1.29 p. m.	6.11 p. m.
Empire....................	1.34 p. m.	6.05 p. m.
Culebra...................	1.39 p. m.	6.00 p. m.
Paraiso....................	1.47 p. m.	5.50 p. m.
Pedro Miguel	1.51 p. m.	5.48 p. m.
Corozal....................	2.04 p. m.	5.38 p. m.
Panama....................	2.15 p. m.	5.30 p. m.

Kangaroo Masquerade Dance.

The last monthly dance to be held in Kangaroo Hall, Empire, will be a masquerade, and will be held on the first Saturday night in December. As mentioned in a previous issue of The Canal Record the informal Tuesday night dances will be held each week as heretofore.

By order of the court: E. C. Mills,
Clerk pro. tem.

Empire, November 27, 1909.

Humane Societies.

A meeting of the directors of the Canal Zone Humane Society was held at the residence of the Acting General Secretary, Archdeacon Henry B. Bryan, on Sunday afternoon, November 21. Col. George W. Goethals and Mrs. Herbert G. Squiers were elected honorary vice-presidents. A committee was appointed to arrange for a general meeting to be held in Ancon in January, with Mr. F. B. Fearon as chairman. The executive order relating to the humane laws of the Canal Zone, published in The Canal Record of October 27, was issued by President Taft at the recommendation of the society. A supply of buttons has been received and may be obtained for 20 cents each by members upon application to the treasurer, Mr. F. B. Fearon, Panama.

The Colon Humane Society was organized in the Government building, Colon, on Sunday, November 14. The officers elected were: Dr. Claude C. Pierce, president; Frank Ullrich, vice-president; A. Robertz, secretary, and E. Lopez, auditor. Governor Melendez and Mr. Hiram J. Slifer were elected honorary presidents. There is an enrollment of 60 members.

Resignation of Commissioner Blackburn.

Mr. Jo C. S. Blackburn has advised the Chairman of the Commission by cable that his resignation as a member of the Isthmian Canal Commission has been accepted by the President, effective December 4.

Red Cross.

The President of the Canal Zone Branch of the Red Cross has appointed Major Charles W. Lynch, Medical Corps, U. S. A., and Dr. Howard V. Dutrow delegates to the annual convention of the American National Red Cross to be held in Washington, D. C., beginning on December 7.

Missing Men.

Information is desired by Mr. F. A. Pezet, Minister for Peru in Panama, with regard to the whereabouts of one Alfred C. Walcott, a negro, who is supposed to be working on the Canal or the Panama railroad. Communications should be addressed to the Peruvian Legation, Panama, R. P.

Information is desired concerning the whereabouts of F. Gadsden Bryan, formerly an employe of the Commission. The personnel record of the Commission shows that Bryan resigned from the position of general foreman in the Chagres Division on January 21, 1908. Any information respecting Mr. Bryan's whereabouts should be communicated to the Chief of Police of the Canal Zone.

Any person having knowledge of the whereabouts of Duncan Murray, a native of Glasgow, Scotland, is requested to communicate with the district physician at Balboa, C. Z.

Obituary.

William Snyder, a foreman in the water and air service of the Central Division, was struck and killed by a dirt train in Culebra Cut, near Bas Obispo, on November 22. He was 44 years of age, and had lived on the Isthmus about six months, his last place of residence being Matachin. His father, who lives at Fitzgerald, Georgia, a son residing in the United States, and his widow, who lived with him in Matachin, survive him.

The river gaging station on the Gatun River has been moved from its former location a short distance up the river to Monte Lirio.

CANAL WORK IN OCTOBER.

Monthly Report of the Chairman to the Secretary of War.

CULEBRA, C. Z., November 23, 1909.

The Honorable the Secretary of War,
Washington, D. C.

Sir—I have the honor to submit the following report of operations on the Isthmus for the month of October, 1909:

In order to promote economy, effective October 1, the repair of steam shovels and manufacture and repair of steam shovel parts at Empire shops was transferred from the Mechanical Division to the Central Division. This included the transfer of shops necessary for this work and of the organization which had been performing it. Repairs of steam shovels for the Atlantic and Pacific Divisions and Panama railroad, formerly made by the Mechanical Division at the Empire shops, are now performed at the Empire shops by the Central Division.

Department of Construction and Engineering.

The following table summarizes the principal items of construction work accomplished by the Atlantic, Central and Pacific Divisions during the month:

Item.	Unit.	Atlantic.	Central.	Pacific.	Total.
Work excavation, dry	Cubic yards	129,964	1,524,310	64,351	1,718,625
Work excavation, wet	Cubic yards	314,778	....	742,024	1,056,802
Total work excavation	Cubic yards	444,742	1,524,310	806,375	2,775,427
Plant excavation, dry	Cubic yards	7,400	....	44,971	52,371
Plant excavation, wet	Cubic yards	....	....	....	....
Total plant excavation	Cubic yards	7,400	....	44,971	52,371
Total Canal excavation	Cubic yards	452,142	1,524,310	851,346	2,827,798
Explosives used	Tons (2240 lbs)	44.14	295.20	22.36	361.70
Rock drilling	Feet	47,331	345,688	66,447	459,466
Track removed	Miles	....	12.20	....	12.20
New track laid	Miles	3.08	7.50	4.12	14.70
Material placed in dams	Cubic yards	533,898	....	32,300	566,198
Rock crushed	Cubic yards	25,201	6,849.50	7,268	39,318.50
Cement used	Barrels	34,573	468	9,038	44,079
Concrete placed	Cubic yards	33,031	406	8,918	42,355
New roads built	Miles	....	2.61	....	2.61
Water mains laid	Feet	10,780	559	2,238	13,577
Sewers laid	Feet	1,950	45	2,202	4,200
New drains and ditches dug	Feet	110	1,795	1,760	3,665
Average daily force		6,637	9,130	4,417	20,184
Rainfall, average	Inches	15.52	21.13	17.47	17.16

Atlantic Division.

GATUN LOCKS.

Excavation—Excavation was continued during the month in all three chambers of the lock, but the principal work was performed in the lower chamber. Excavation for the pavement south of the emergency dam was also started, 3-foot gage locomotive and cars being used to dispose of the spoil.

Receiving and Issuing Material—During the month further modification of the cranes in the cement shed was undertaken by the contractor, who has a representative on the ground for the purpose of making such modifications as will make the plant acceptable under the contract. A sufficient number of cranes were kept in operation to more than handle the quota of cement shipped to the Atlantic Division. The sand trestle over the sand bins for receiving sand from the Pacific Division was completed and is in satisfactory operation.

Concrete Mixing Plant—A satisfactory connection between the superhoppers and the mixers was devised and installed on six mixers. The construction of an auxiliary steam mixing plant on the east side of the lock excavation at the south end of the lock was started, and at the end of the month foundations for the building, boilers and driving engine had been completed.

Industrial Road—This road was operated successfully during the month.

Cableways—The total amount of material handled by the unloading cableways during the month was about 33,000 cubic yards. The lock cableways were operated satisfactorily, and their average output improves as the skill of the operators increases. The head tower of cableway No. 2 was raised to its proper position and the broken front legs replaced by legs manufactured at the drydock shops.

Concrete Work—The laying of concrete in the forebay and in the upper lock was continued during the month. The tell-tale system in the upper lock was completed. The material for tower forms was received during the month, and part of it placed in position on the finished concrete.

New Power Plant—The air compressor was put in operation during the month. Fifty per cent of the automatic railroad was wired for lights, and the west tunnel of the automatic railroad was put in operation. The wiring on the lock towers was 90 per cent completed.

GATUN DAM.

Construction during the month increased the total fill by 521,294 cubic yards, making the total at the end of the month 4,779,729 cubic yards.

Stripping—Stripping of the east valley was extended during the month on Spillway Hill. This work extended the stripped area by .45 of an acre. The total stripped area at the end of the month was 198.75 acres.

Hydraulic Fill—Allowing 10 per cent for loss, the hydraulic fill in the dam was increased by 311,462 cubic yards, making the total at the end of the month 1,794,494 cubic yards.

Trestles—The trestle at the head of the spillway at elevation plus 30 was extended during the month a distance of 200 linear feet, completing the same. The trestle on the south toe, beyond the old Chagres River, was extended toward the west end of the Dam a distance of 340 linear feet. Five hundred and eight linear feet of trestle were built on the levee line across the Chagres River.

Enrockments—The material received from Buena Vista, the Locks, Mindi, and the spillway, amounting to 209,831 cubic yards, was placed on the north and south toes of the Dam. The total dry fill at the close of the month was 2,985,235 cubic yards. Bas Obispo rock was placed in storage at New Gatun to the amount of 43,095 cubic yards.

GATUN SPILLWAY.

Excavation—Excavation at the head of the spillway was continued by steam shovel No. 51, the output being 14,880 cubic yards. An additional amount of 530 cubic yards was handled by crane No. 44 in preparing foundation for concrete side walls and floor. The total spillway excavation at the close of the month was 1,324,724 cubic yards.

Concrete—Work was continued on the east and west walls north of the spillway dam and on the east face wall and floor south of the dam. The total amount of concrete placed was 3,516 cubic yards, making the total at the end of the month 49,547 cubic yards.

HARBOR AND CHANNEL SECTION.

Dry Excavation Below Sea Level at Mindi—During the month 24,303 cubic yards of earth, and 48,340 cubic yards of rock were removed from the prism.

Dredging from the Ocean to Mindi—Three dredges removed from the prism 269,463 cubic yards of earth, and 45,315 cubic yards of rock during the month. In addition, the dredge *Caribbean* removed 143,150 cubic yards of earth from the approach channel to Cristobal Harbor, and 16,099 cubic yards of earth from in front of Pier 11. The dredge *Mindi* also removed 2,800 cubic yards of rock from the approach channel. This dredge was out of service until October 28, undergoing general repairs. On October 31st, 40 feet of water could be carried from 0 to Mile 2 plus 3,300 feet; 30 feet to Mile 3 plus 3,500 feet, and 20 feet to Mile 5 plus 420 feet.

PORTO BELLO.

General miscellaneous mechanical and repair work was continued. During the month 35,991 cubic yards of rock were loaded into cars for crushers, and 9,867 cubic yards of earth were removed hydraulically from the quarry. During the month 25,201 cubic yards of crushed rock were produced. Telephone and electric wiring was installed in the wireless telegraph station, and the mast taken to a point on the hill ready for erection.

NOMBRE DE DIOS.

The dredge *Chagres* was engaged in loading sand barges and scows. During the month 12 sand barges were loaded with 6,552.8 cubic yards of sand, and 10 scows with an aggregate of 4,000 cubic yards of material from the channel. The locomotive crane was engaged during the entire month in digging sand.

MUNICIPAL ENGINEERING AND BUILDING CONSTRUCTION.

Building and municipal work was satisfactorily continued during the month.

Central Division.

During the month of October the total amount of material excavated in the Central Division was 1,524,310 cubic yards, of which 328,013 cubic yards were classified as earth and 1,196,297 cubic yards as rock. Of this quantity 1,510,760 cubic yards were removed by steam shovels, and 13,550 cubic yards by hand, all of which was taken from the Canal prism. The daily average number of steam shovels at work during the month was 47.23, as compared with 46.60 for the month of September.

For comparison with the work done by

steam shovels during the corresponding month of the previous year, the following table has been prepared:

Period.	Excavated by shovels.	Classification of material.		Av. No. of shovels at work.	W'k'g days.	Av. yards per shovel day.
		Rock.	Earth.			
1908:	*cu. yds.*	*cu. yds.*	*cu. yds.*			*cu yds.*
Oct....	1,585,888	1,018,357	567,531	49.55	27	1,185.3
1909:						
Oct....	1,510,760	1,190,304	320,456	47.23	26	1,230.1

Rainfall at Empire: 1908, 8.85 ins.; 1909, 21.13 ins.

The above table shows that the average output per shovel day was almost 3.8 per cent greater in October, 1909, than in the corresponding month of the previous year.

During the month 194,783 cubic yards of material excavated from the prism were transported to the relocation of the Panama railroad between Caimito and Gamboa, and 6,674 cubic yards near Miraflores and Corozal, and dumped as filling in the embankment for the new roadbed, the total dumped at the close of the month for this purpose being 2,115,834 cubic yards.

During the month 49,200 cubic yards of earth from Buena Vista, and 35,700 cubic yards of rock from Bas Obispo were transported to Gatun for use in the construction of the Dam. At the end of the month 153,400 cubic yards of earth and 556,988 cubic yards of rock had been transported for this purpose.

The daily average number of laborers at work was 8,049, while the average number of gold men at work was 1,081.

Pacific Division.

DISTRICT NO. 1—LOCKS AND DAMS.

The total excavation during the month amounted to 130,426 cubic yards. At Pedro Miguel 220 cubic yards were added to the prism of the west dam, increasing the total to 170,166 cubic yards.

At Miraflores 13,086 cubic yards of dry filling were added to the toe of the west dam, increasing the total to 439,747 cubic yards; 18,994 cubic yards of hydraulic filling were placed in back-fill, increasing the total to 29,955 cubic yards.

At Pedro Miguel the track was laid on the east storage trestle, completing the structure. The last of the material from the slide in the east lock chamber was removed, and the erection of one of the chamber cranes was commenced.

At the Miraflores power house, the concrete roof, and the intake and discharge lines, and practically all the boiler work were completed, and the installation of machinery continued.

Regular operations were continued at Miraflores, and, in addition, preparations were completed for the driving of the foundation piles in the east storage trestle.

At Ancon quarry, a slide in the face of the hill below the crusher level did considerable damage and retarded the work of preparation.

DISTRICT NO. 2—DREDGING.

Six dredges were in operation during the month, the amount of material excavated being shown in the following table:

Dredge	TYPE.	CUBIC YARDS.		Remarks.
		Work.	Plant.	
Culebra	Suction	376,065	6,887	Scow measurement
Mole...	Ladder	70,600	....	Place measurement
Badger.	Ladder	98,063	....	Place measurement
C'denas	Dipper.	35,840	....	Place measurement
Marmot	Ladder	125,663	....	Place measurement
Gopher.	Ladder	7,802	....	Place measurement
Total.	....	714,033	6,887	

The work of clearing in the Canal Zone between Corozal and the sea was continued. An area of 249,400 square feet was cleared during the month, and an area of 100,000 square feet was grubbed of stumps, roots and brush, which were piled and burned.

A party was engaged in drilling a well at the Palo Seco leper colony until October 27, when the outfit was transferred to Culebra Island for similar duty. The total drilling at Palo Seco amounted to 152.8 linear feet. It was necessary to abandon the first hole, but the second hole drilled showed an ample supply of water at 120 feet. The bottom of the hole was chambered, and a supply of water was secured, estimated at 20,000 gallons per day.

DISTRICT NO. 3—MUNICIPAL AND BUILDING WORK.

Building and municipal work was continued during the month. A survey was made of the Pueblo Nuevo district in Panama, and some of the street locations were checked up in the Guachapali district. The Ancon pumping and steam plant and the Rio Grande rock crusher were successfully operated.

Relocation of Panama Railroad.

During the month, 201,678 cubic yards of material were excavated, making the total excavation at the close of the month 2,159,235 cubic yards, and 301,969 cubic yards of material were placed in embankment, making the total for this purpose at the end of the month 6,212,763 cubic yards. During the month 2,270 linear feet of temporary trestle were driven, and numerous small culverts were completed; 10,942 linear feet of permanent track were laid, making the total at the close of the month 132,650 linear feet. The force of laborers during the month averaged 2,668 men.

Quartermaster's Department.

The total effective working force October 27, including the Panama railroad and the Commissary forces, was 35,405. This was one of the largest forces on record. There were more employments in the United States than usual, 149 men having been sent to the Isthmus during the month. Of this number, 35 were machinists, and nearly all of the remainder were skilled laborers of different kinds. The force of European laborers shows no decrease, a large number of independents having arrived during the month.

A number of miscellaneous buildings were completed.

Subsistence Department.

The operation of the Hotel Tivoli during the month showed a loss of $2,767.85. There was a loss of $2,574.04 on the operation of the line hotels, and a profit was made on the operation of the mess halls and kitchens. The net operations for the month showed a loss of $1,778.64.

Department of Civil Administration.

COURTS.

The Supreme Court of the Canal Zone disposed of one civil case during the month. In the circuit courts, 18 civil and nine criminal cases, and in the district courts, 95 civil and 586 criminal cases were disposed of.

DIVISION OF POSTS, CUSTOMS AND REVENUES.

The net revenues of the Canal Zone in October were $16,119.98. The collections of the Division of Posts, Customs and Revenues amounted to $15,684.79. Collections on account of court fines, costs and fees were $3,006.79. Money order sales during the month amounted to $431,427.83, of which $323,957.46 was payable in the United States and foreign countries, other than Martinique, and $313.50 in Martinique.

Twenty vessels entered at and 20 vessels cleared from the port of Ancon, and 18 vessels entered at and 18 vessels cleared from the port of Cristobal.

DIVISION OF POLICE AND PRISONS.

The number of arrests during the month was 606, as compared with 559 in September. There were 153 prisoners confined in the district jails at the close of the month. Four convicts were committed to the penitentiary during the month, and 11 were discharged at the expiration of their sentences; and on October 31st, 113 convicts were confined in the penitentiary. The cost of guarding and subsisting the convicts was $2,963.01, and the value of the work performed by them was $1,646.40. The labor of the prisoners was utilized during the month in the construction of the Empire-Paraiso road.

DIVISION OF FIRE PROTECTION.

Four fires were reported during the month. The estimated value of Commission and railroad property involved was $40,735, and the damage $15.

DIVISION OF PUBLIC WORKS.

The regular inspection and maintenance work of this division was performed during the month. In the city of Panama the average daily consumption was 974,677 gallons, and in the city of Colon 622,676 gallons.

DIVISION OF SCHOOLS.

The Canal Zone schools were opened on October 4. The teaching force consists of 35 American and 21 colored teachers, as compared with 23 American teachers and 19 colored teachers at the opening of the schools in October, 1908. A comparison of the enrollment and daily average attendance in the schools during the months of October, 1909, 1908, and 1907, is as follows:

	1909.		1908.		1907.	
White children	745	638.3	622	492.7	351	243
Black children	1,067	672.2	1,073	695.5	1,014	637
Total	1,812	1,310.5	1,695	1,188.2	1,365	880

In the high schools of the Canal Zone 43 pupils were enrolled (20 at Cristobal, 8 at Gatun and 15 at Culebra), as compared with an enrollment of 20 in October, 1908, and 5 in October, 1907.

Department of Sanitation.

The total number of employes shown on the rolls during October for the first time exceeded 50,000. The following table shows the number on the rolls during the month of October in previous years since American occupation:

October, 1904	6,499
October, 1905	22,281
October, 1906	25,445
October, 1907	41,113
October, 1908	43,593
October, 1909	50,641

For the same years the death rate among employes was as follows:

	Annual Av. per 1000.
October, 1904	20.31
October, 1905	32.85
October, 1906	46.68
October, 1907	25.97
October, 1908	12.93
October, 1909	9.95

It will be noted that the death rate for

October, 1909, was less than that for the same month in any previous year.

The death rate among the general population was also smaller, as indicated by the following figures:

	Annual Av. per 1000.
October, 1905	56.62
October, 1906	46.40
October, 1907	30.19
October, 1908	27.91
October, 1909	16 62

For the same years the malarial rate was as follows:

	Annual Average per 1,000 Cases
October, 1904	151
October, 1905	699
October, 1906	914
October, 1907	455
October, 1908	501
October, 1909	253

It will be seen that the malarial rate was considerably lower than for any previous October with the exception of October, 1904. No deaths from typhoid fever occurred during October, and there were no deaths among employes from dysentery. No cases of yellow fever, bubonic plague or small-pox occurred on the Isthmus during the month.

Respectfully,
GEO. W. GOETHALS, *Chairman*.

Compressed Air Reheaters.

The compressed air reheaters, for increasing the effectiveness of the compressed air system in the Central Division and in the Pacific Division as far south as Miraflores, have arrived, and one of them is being installed at Bas Obispo. The other is to be erected at Miraflores.

ISTHMIAN BASEBALL LEAGUE.

STANDING OF CLUBS.

	Won	*Lost*	*P. C.*		*Won*	*Lost*	*P. C*
Gorgona	1	0	1.000	Empire	0	0	.000
Ancon	0	0	.000	Marines	0	1	.000

SCHEDULE FOR DECEMBER 5.

Marines at Ancon.
Gorgona at Empire.

Rain has seriously interfered so far with the baseball schedule of the Isthmian League. The grounds at Ancon were too wet to play on Thanksgiving Day, but the Gorgona team played the Marines at Gorgona. On Sunday, November 28, the games scheduled for Empire and Gorgona had to be postponed.

The official score of the Marines-Gorgona game follows:

Gorgona.	AB.	R.	H.	PO.	A.	E.
Dougherty, 2b	2	1	0	3	1	0
Massen, 2b	1	0	0	2	0	0
Magee, lf	3	2	1	2	0	0
Barney, c	4	1	2	10	1	0
Wright, 1b	3	2	2	8	0	0
Herring, rf	3	2	1	0	0	1
Morton, ss	4	1	1	1	3	0
Emery, 3b	4	1	2	0	2	0
Kenney, cf	3	0	0	1	0	1
Case, p	3	0	0	0	3	0
Total	30	10	9	27	10	2
Marines.						
Hurrle, lf	4	0	1	1	0	0
Heinz, 1b	3	0	0	12	1	1
Decker, cf	3	1	1	1	2	1
Volman, 3b	5	0	0	0	1	0
Pierson, c	3	0	2	3	1	0
Austerman, 2b	4	0	0	3	3	0
Goodwin, ss	4	1	0	1	2	1
Synnott, p	1	0	0	0	2	2
Munsen, rf, p	3	0	1	0	2	0
Hudson, rf	3	1	2	2	0	0
Total	33	3	7	23	14	5

Gorgona	1	5	2	0	0	0	2	0	x—10
Marines	0	0	0	0	1	0	0	1	1— 3

Home run—Magee. Two base hit—Decker. Sacrifice hits—Wright, Kenney, Heinz, Munsen. Stolen bases—Dougherty, Barney, Emery. Bases on balls—off Synnott, 3; off Case, 3; off Munsen, 1. Left on bases—Gorgona, 2; Marines, 7. Struck out—By Case, 10; by Munsen, 1; by Synnott 1 Double play—Goodwin to Austerman to Heinz Hit by pitcher—Decker. Umpire—Irwin. Time of game—1 hour and 50 minutes. Official scorer—Hayes.

SOCIAL LIFE OF THE ZONE.

Benefit Ball by Auxiliary to B. of L. E.—Amateur Orchestra Organized at Ancon.

The Woman's Auxiliary to the Brotherhood of Locomotive Engineers held a benefit ball at Las Cascadas on Thanksgiving Eve. The dining room of the Commission hotel, where the dance was held, was decorated with palms and the colors of the order. The music was furnished by the Tivoli orchestra. Miss Winnie Gibson, of Trenton, Miss., sang. The proceeds of the dance will be contributed to the home for disabled railroad men in Highland Park, Ill. Beginning in December, the auxiliary will hold its meetings at Las Cascadas on the second Friday, and at Pedro Miguel on the fourth Friday in the month. Mrs. W. A. Murdock, the founder and grand president of the order, is expected to pay a visit to the Isthmus in February.

A meeting for the purpose of organizing an amateur orchestra was held in Ancon hall on Monday evening, November 29. Eleven persons have entered their names for membership. The organization is formed for the purpose of promoting good music in Ancon. The orchestra will not be available for professional purposes. Any persons residing in Ancon or Corozal who play musical instruments, and wish to join the orchestra may communicate with Dr. A. J. Orenstein or Mrs. H. E. Bovay, Ancon.

Mr. and Mrs. A. B. Avery, of Meridian, Miss., celebrated the fiftieth anniversary of their wedding, at their home in Cristobal on Thursday evening, November 25.

Gatun Sunshine Society.

The Gatun Sunshine Society will hold an apron sale and baby show at the Commission chapel on the afternoon of December 1. Since September the society has held regular meetings on the first and third Thursday of the month. The work of the branch is applied to the fund for the Blind Babies Home, New York, for which object the members are planning to forward a sum of money as a New Year's offering. At a recent dance held in the clubroom the receipts amounted to $35. The officers are elected quarterly, beginning in December. The present officers are: Mrs. Harry A. Porter, president; Mrs. E. A. Keator, secretary and treasurer. Mrs. Nat M. Johnson, Mrs. H. W. Reid, and Mrs. H. C. Neville constitute the board of managers. There are 17 active members and a number of associate and assistant members. The Gatun society is the only "Sunshine" organization in the Canal Zone. Mrs. Nat M. Johnson has been appointed official organizer for the Zone.

Church Work.

The visit of Bishop Knight of Cuba to the Episcopal churches on the Isthmus has been postponed, and he is expected to arrive on the Isthmus on December 5. The reception arranged by the Woman's Guild of Ancon, in his honor will be held on the evening of December 9, at the home of Archdeacon Bryan in Ancon.

Owing to a change of plans of the Right Reverend the Bishop of Cuba, the confirmation service arranged for December 5 at Culebra has been postponed until the evening of December 14, at eight o'clock. The Ven. Archdeacon H. B. Bryan will administer holy communion in the chapel at Culebra and address the candidates for confirmation on December 5, at 11 o'clock in the morning. All those interested in forming a choir are requested to remain after the service.

Thanksgiving Day was observed by religious services held at St. Luke's Church, Ancon, the social hall, Corozal, the Union chapel and St. Mary's Church, Empire, the Baptist mission and Christ Church, Colon. Services were also held at the stockade at Gold Hill, where 70 convicts and 18 officers are stationed.

The new church building of the Episcopal mission of St. James, Empire, was opened for public worship on Sunday, November 21. It is estimated that 800 people attended the three services held on that day. Formal exercises in connection with the opening of the church will be held when the building is completed.

The collection at the Thanksgiving service at Corozal will be forwarded to Toledo, Ohio, for the benefit of the newsboys of that city. The Sunday school is holding its sessions in the social hall on Sunday mornings at 10.30 o'clock.

On Thanksgiving Day at Christ Church, Colon, communion was celebrated at 7.30 a. m., and a Thanksgiving service was held at 10.30. The Harvest Festival was held in accordance with the custom of the Anglican Church on Sunday morning, November 14. The chancel was decorated with palms and sugar cane. Gifts of bread, fruits and vegetables, made by members of the congregation were afterward taken to the parish schoolhouse, where they were sold. The proceeds of the sale, $30, will go toward the establishing of a poor fund for the church.

PERSONAL.

Lieut.-Col. H. F. Hodges sailed for New Orleans on the United Fruit Company's steamship *Turrialba*, on Tuesday, November 30, on his annual leave of absence in the States.

Lieut. F. O. Whitlock and Mrs. Whitlock returned to the Isthmus on the *Ancon*, which arrived at Cristobal on November 30.

Mr. G. E. Geer, formerly Assistant to the General Manager of the Panama railroad, has resigned from the company's service and sailed for the States on the *Turrialba* on Tuesday, November 30.

Lieut. Frederick Mears, Acting Chief Engineer of the Panama Railroad Company sailed for the States on the *Panama*, on November 27, on his annual leave of absence.

Married.

BLUNT—NORTON—At Empire, Canal Zone, on Saturday, November 27, Helen Elizabeth Norton, daughter of Mr. and Mrs. Frederick Dunan Norton of Empire, to Mr. William Titcomb Blunt, superintendent of subaqueous rock excavation of the Pacific Division.

VAN ZANT—PETERSEN—At Colon, R. P., on Thursday, November 25, 1909, Mary Catherine Petersen, daughter of Mr. and Mrs. John Frederick Petersen of Rushville, Neb., to Charles Leonidas Van Zant, Father Cooper, rector of Christ Church, officiating.

BROWN—BRITTINGHAM—At Cristobal, Canal Zone, on Saturday, November 13, Jennie Brittingham, of Berlin, Md., to Mr. Frank Reginald Brown, of Independence, Mo., Rev. Carl H. Elliott, officiating.

ROGERS—SHORT—At Christ Church, Colon, on Thursday, September 23, Sarah Percy Short, of New Hope, Pa., to Walter Hiram Rogers, of Los Angeles, Cal., Rev. Father Cooper officiating.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

A concert was given by the Kemp Company Friday night, November 26. The attendance was good and the lecture and pictures were appreciated. The company will fill a return engagement Friday evening, December 3.

The chess tournament is progressing. Following is the standing of the players:

	Won.	*Lost.*
Vogel	4	0
Stearns	3	0
Duboise	3	1
Warner	1	3
McCarney	1	3
Herrington	1	2
Marshall	0	2

Thus far Mr. Vogel has won the highest number of games.

Arrangements are being made for a smoker on Saturday night, December 4.

EMPIRE.

The boys' department entertained the boys' department from the Cristobal Y. M. C. A. on Friday afternoon, November 26. The first number on the program was a game of indoor baseball, in which the Cristobal boys won, with a score of 32 to 3. The Empire boys won two out of three games in a duck pin contest.

Last Friday evening a committee of representatives of the various departments met at the Y. M. C. A. to plan for a community Christmas celebration to be held at the clubhouse on Christmas Eve. Further announcements will be made later.

A four months schedule of gymnasium classes will begin on Wednesday evening, December 1, at 8 o'clock. All those who have signified their intention to enter are requested to be on hand promptly. All other members interested in physical culture are invited to enter these classes.

GORGONA.

The Culebra indoor baseball team played Gorgona team at the latter clubhouse on Wednesday evening, November 24. Up to the last inning it was either team's game, but Culebra won by a single run. The batteries were: Gorgona, Weiser and Buchanan; Culebra, Tupper and Cushing. Mr. Emery umpired.

Mr. L. B. Hastings of Gatun was the speaker at the monthly religious service held at the clubhouse last Sunday evening, his subject being "The Ideal Man." Mr. Geo. R. D. Kramer, assistant secretary at Culebra, sang two tenor solos, accompanied by Mrs. F. C. Freeman.

A praise service was held at the Union Church on Thanksgiving evening, after which the Marine band led the people back to the clubhouse, where a concert was given, the band being assisted by Messrs. Brodie and White, also of the Marine Corps, who gave several black and white face sketches, impersonations, songs, etc. Mr. Weeks of Gorgona also assisted.

The orchestra from the *Prinz August Wilhelm* played at the clubhouse last Monday evening.

Rehearsals are being held regularly for the Christmas cantata to be given by the children of Gorgona on Christmas Eve.

Gorgona defeated Cristobal two out of three in a bowling match at Gorgona last Saturday night.

Carl Toberer was the winner of a bowling contest held among the boy members Wednesday afternoon, November 24.

CRISTOBAL.

The interassociation individual bowling tournament which was played on the Cristobal alleys on Thanksgiving Day was the most successful of its kind yet held. The following men were entered:

Singles: Culebra—Dougherty, Lamster, Vogel, Edwards, Herrington, Case. Empire—Brown, Potter, Goolsby, Gustaveson, Shaughnessy, Gorham, Huson. Gorgona—Buchanan, Cram, King, McConaughey, Otis, Durand, Hinckley. Cristobal—Gilmartin, Collins, Barte, Bullard, McCormack, Louch, Barlow, Gilmore.

Doubles: Culebra—Dougherty and Lamster; Edwards and Vogel. Empire—Gorham and Shaughnessy; Goolsby and Gustaveson; Potter and Huson. Gorgona—Cram and King; Durand and Hinckley; Otis and McConaughey. Cristobal—Gilmartin and Strong; Collins and Barte; Bullard and McCormack; Louch and Barlow.

The results in the singles were:

	High 3-Game Score.
First: Barte, Cristobal	597
Second: Strong, Cristobal	583
Third: Potter, Empire	556

	High Single Game Score.
Barte, Cristobal	246

The results in the doubles were:

	High 3-Game Score.
Huson and Potter, Empire	1078
Edwards and Vogel, Culebra	1078
Shaughnessy and Gorham, Empire	997

The tie in the doubles between Empire and Culebra was rolled off on the Cristobal alleys on Saturday night, November 27, and resulted in the following score: Empire, 1101; Culebra, 1021.

An orchestra concert, largely attended by members and friends, was given at the clubhouse, Monday night, November 29.

Mr. and Mrs. E. H. Kemp appeared before a large audience on Wednesday night, November 24, in a lecture on the Hopi Indians, illustrated with lantern slides and motion pictures. They appear again on Wednesday night, December 1, in a lecture on the Sioux Indians.

On Friday night, December 3, a smoker will be held, and the following program will be presented:

Selection	Orchestra
Selection	Male Quartet, Culebra Y. M. C. A.
German Dialect Sketch	F. E. Read, Colon
Selection	Orchestra
Coon Songs	Buck Brodie, U. S. M. C., Camp Elliott
Fancy Indian Club Swinging	G. R. D. Kramer, Culebra Y. M. C. A.
Monologue	J. H. Flynn, Culebra
Selection	Orchestra
Sketch	Wm. White, U. S. M. C., Camp Elliott
Skap Shoe Dancing	Buck Brodie
Illustrated Songs	J. H. Flynn
Grand Sing	Everybody from Everywhere

On Saturday night, December 4, the Cristobal indoor baseball team will play the Gorgona team, and the bowling team will meet the Culebra team, both at Cristobal.

GENERAL NOTES.

The return engagements of Mr. and Mrs. Kemp will consist of a lecture on "Siouxland." The following are the dates: Gorgona, November 30; Cristobal, December 1; Empire, December 2; Culebra, December 3.

An indoor baseball league will start January 1 and will continue for a series of twelve games—two at home and two away with each association. The schedule has not as yet been completed.

Rainfall, November 1 to 27, 1909, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Division—	*Ins.*		*Ins.*
Cristobal	6.13	11	38.93
Brazos Brook	5.31	12	33.19
Gatun	3.74	18	34.36
Central Division—			
Bohio	3.99	12	30.04
Tabernilla	4.32	12	27.30
San Pablo	3.63	12	24.13
Gorgona	3.85	13	23.63
Gamboa	2.25	12	23.37
Empire	2.59	17	17.75
Camacho	3.20	17	22.44
Culebra	3.17	17	20.50
Pacific Division—			
Rio Grande	3.33	17	20 19
Pedro Miguel	3.38	17	16.72
Miraflores	3.63	17	18.40
Balboa	2.47	22	12.33
Ancon	1.80	22	11.63
Atlantic Coast—			
Porto Bello	8.53	18	40.38
Nombre de Dios	6.64	18	26.81
Upper Chagres—			
El Vigia	4.72	12	32.35
Alhajuela	3.76	17	32.67

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending December 8, 1909 (75th meridan time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	A. M.	P. M.	P. M.
Dec. 2	....	12.58	6.57	1.23	7.22
Dec. 3	....	1.51	7.49	2.15	8.28
Dec. 4	....	2.50	8.48	3.13	9.26
Dec. 5	....	3.53	9.51	4.15	10.33
Dec. 6	....	4.58	11.16	5.17	11.33
			P. M.		
Dec. 7	....	5.58	12.15	6.15	....
Dec. 8	12.30	6.51	1.08	7.05	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

OFFICIAL CIRCULARS.

General Superintendent, P. R. R.

PANAMA RAILROAD COMPANY,
OFFICE OF PRESIDENT.
CULEBRA, C. Z., November 27, 1909.

The position of General Manager of the Panama railroad is hereby abolished.

Mr. J. A. Smith will assume charge of the operation of the Panama railroad and steamship lines on the Isthmus as General Superintendent.

GEO. W. GOETHALS, *President.*

Signature of Papers.

CULEBRA, C. Z., November 22, 1909.

TO ALL CONCERNED:

Effective this date, Mr. J. A. Smith, Superintendent of the Panama Railroad Company, is authorized to sign such papers as have heretofore been signed by the General Manager.

GEO. W. GOETHALS, *President.*

Acting Superintendent, P. R. R. Electrical Department.

PANAMA RAILROAD COMPANY,
COLON, R. P., November 26, 1909.

TO ALL CONCERNED:

During the absence of Mr. Joseph Beaumont, on leave of absence, Mr. S. C. Potts, will act as Superintendent of Telephone, Telegraph, Signals, Electric Light and Power, effective November 27.

J. A. SMITH, *Superintendent.*

Destruction or Removal of Buildings.

CULEBRA, C. Z., November 23, 1909

CIRCULAR NO. 293:

Whenever the destruction or removal of any buildings or other improvements, which have been paid for from Commission or Canal Zone funds, becomes necessary or advisable, written request shall be submitted to this office.

A board, consisting of the Surveying Officer, the Constructing Quartermaster and the District Quartermaster for the district in which such buildings or improvements may be situated, will make a report and recommend the disposition to be made of same; and, if any building or material is to be sold, will appraise its value, such sale to be made by the Quartermaster's Department after approval of the report of the board by the Chairman of the Commission.

The Surveying Officer will act as chairman of the board, and will arrange meetings and keep the necessary records.

GEO. W. GOETHALS, *Chairman.*

Band Concerts.

The Isthmian Canal Commission Band will give a concert at Hotel Tivoli, Ancon, on Sunday, December 5, 1909, at 7.15 p. m. The program follows:

1 March—*With Sword and Lance*............Starke
2 Selection—*The Midnight Sons*............Hubbell
(By request).
3 Waltz—*Donau Wellen*..................Ivanovici
4 a *Pigeon Wing Rag*....................Johnson
b March—*My Own United States*...... Edwards
(By request.)
5 Overture—*Light Cavalry*..................Suppe
6 *Simple Aveu*..............................Thome
7 Medley Selection—*The Glittering Glow Worm*..................................La Farge
Introducing "Sambo," "If I Had a Thousand Lives to Live," "I've Lost My Teddy Bear," "I Am Longing for Some One to Love Me," "The Glow Worm," "Ada, My Sweet Pertater," "Henry's Barn Dance," and "The Big Red Shawl."
8 Suite de Ballet—*Antony and Cleopatra*.Gruenwald
9 Patrol—*American*......................Meacham
10 Selection—*Maritana*....................Wallace
11 March—*Semper Fidelis* (By request.).......Sousa

The Isthmian Canal Commission Band will give a concert at Cristobal, C. Z., on Wednesday, December 8, 1909, at 8.15 p. m. The program follows:

1 March—*Grand Opera*......................Missud
2 Overture—*Poet and Peasant* (By request.) ..Suppe
3 Waltz—*Donau Wellen*..................Ivanovici
4 Comic Tattoo—*The Musician's Strike*...Fahrbach
(By request.)
5 Selection—*The Midnight Sons*............Hubbell
6 Morceau Elegant—*Golden Blonde*......Eilenberg
7 a *Pigeon Wing Rag*....................Johnson
b Popular March—*My Own United States*
(By request)..........................Edwards
8 Descriptive—*Battle of San Juan Hill*........Sweet
9 Humoresque on the Merry Widow Waltz
(By request)..........................Bellstedt
10 March—*Col. Estey*........................Bagley

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Culebra on Sunday, December 12.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning November 24:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	27
Chops	per lb	29
Cutlets	per lb	29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	4
Soup	per lb	6
Stew	per lb	10
Corned	per lb., 12, 14,	16
Chuck roast	per lb	14
Pot roast	per lb	16
Rib-roast, second cut (not under 3½ pounds)	per lb	19
Rib-roast, first cut (not under 3 pounds)	per lb	21
Sirloin roast	per lb	22
Rump roast	per lb	22
Porterhouse roast	per lb	22
Steak, Chuck	per lb	15
Round	per lb	16
Rib	per lb	21
Sirloin	per lb	22
Porterhouse	per lb	22
Rump	per lb	22
Tenderloin	per lb	27

MISCELLANEOUS.

Livers—Beef	per lb	11½
Calf	each	65
Sausage—Pork	per lb	17
Bologna	per lb	17
Frankfurter	per lb	17
Leberwurst	per lb	17
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	30
Oysters	keg	90
Eggs, fresh	dozen	†38

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, fatted	each	1.30
medium weight	each	90
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50

CURED AND PICKLED MEATS.

Hams, York Cut, Finnis and Fisher	per lb	30
Bacon—Breakfast, whole piece	per lb	27
Breakfast, sliced	per lb	29
Ham—Sugar-cured, sliced	per lb	§25
One-half, for boiling	per lb	§21
Westphalia	per lb	*36
Hocks	per lb	‡8
Sugar cured	per lb	20
Beef, salt, family	per lb	10
Pork, salt	per lb	15
Ham, boiled	per lb	28
Ox tongues	each	1.00
Pigs' feet	per lb	8
tongues	per lb	16

DAIRY PRODUCTS.

Butter—Prints, prime quality	per lb	†45
Cheese—Roquefort	per lb	45
Philadelphia Cream	cake	*10
Young America	per lb	22
Swiss	per lb	31
Edam	each	1.05
Camembert	per lb	28
Neufchatel	each	6
Gouda	per lb	34
Parmesan	bottle	20
French cheese in tins—Camembert, Brie, Neufchatel	1-lb tin	20
Milk, Briarcliff	bottle	**25
Butter	bottle	**15

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	*5
Lettuce	per lb	*10
Potatoes, white,	per lb	3½
sweet	per lb	2½
Onions	per lb	3
Squash, Hubbard	per lb	5
Yams	per lb	3½
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	4
Cucumbers	per lb	†8
Lemons	dozen	24
Cabbage	per lb	*3
Apples,	per lb	*5
Oranges	dozen	12
Grapefruit	each	4

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal, Colon and Balboa, during the week ending November 27, 1909, with supplies for the Isthmian Canal Commission:

Siberia, November 23, from New York, with 109 tons of hay for corrals.

Turrialba, November 25, from New Orleans, with 100 pieces creosoted lumber for Balboa; 4 tons cottonseed meal for Ancon dairy; 20 tons castings, for Gorgona; 54 reels wire rope, and 1,000 cases kerosene oil for stock; 147 pieces creosoted piling for Central Division.

Allianca, November 26, from New York, with 10 barrels pitch for Miraflores; 12 concrete buckets for Gatun; 7 churn drills for Pacific Division; 75 tons castings for lock construction; 330 kegs paint, 330 kegs wire nails, 15,000 pounds lubricating grease, and 40 tons bolts and nuts for stock; 36 tons steel car springs for Gorgona; and a miscellaneous cargo consisting of 2,634 packages, weighing 425 tons.

Phyllis, November 27, from Baltimore, with 200 tons coke for foundry; 140 tons pipe, 312 tons angle bars, etc., 400 tons car wheels, and 20,640 cases dynamite for stock; 500 tons steel castings for lock construction.

Pennsylvania (Port of Balboa), November 26, from San Francisco, with 20 bales dredge sleeves for Pacific Division.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., December 1, 1909.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Alfoe, George
Bargerstok, Ort
Baughber, Robert
Brandt, M.
Campbell, Otis T.
Claffea, A. J.
Conner, Frank W. (2)
Cooke, C. L.
Finley, Mr. (Civil Engineer)
Fluharty, Zella
Galather, P. E.
Gerlah, F. M.
Gilmore, Mrs. Frank
Grin, Mrs. James K.
Gross, Frank O.
Hahne, H. J.
Hauua, Miss Edna C.
Hunsicker, Grover
Hutton, Miss C. G.
Kitchen, Guy G.
Lindslay, William
Massen, Mrs. Gertie
McGee, Mr.
McLeer, Mrs. R. E.
Morris, Thomas C.
Noonan, Philip
Perte, V. G.
Rudolph, Louis
Samuels, P.
Smith, H. K.
Stearn, E. L.
Thorne, Charles L.
Van Ostrand, J.
Watkins, Sidney
Webb, Arthur D.

Proposals for Commissary Building at Corozal

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., December 6, 1909, and then opened, for the erection by contract of a commissary building at Corozal. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $150 when the contract is signed.

C. A. DEVOL, *Chief Quartermaster.*

Proposals for Storehouse at Porto Bello

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., December 6, 1909, and then opened, for the erection by contract of a storehouse at Porto Bello. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $150 when the contract is signed.

C. A. DEVOL, *Chief Quartermaster.*

Launch Service to Taboga.

The steamer *Sanidad* leaves the dredge landing at Balboa at 9 o'clock Tuesday, Thursday and Saturday mornings. On the return trip it arrives at Balboa about 4.30 p. m. in time to make connections for the 5.30 train at Panama.

FOUND—The man who lost a gold stick pin in the office of the district physician at Culebra on or about November 24, can obtain it by calling for it at that office, and identifying it.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO COLON.

Colon	P. R. R.	Saturday	Nov. 27
Tagus	R.-M.	Saturday	Nov. 27
Advance	P. R. R.	Thursday	Dec. 2
Prinz Joachim	H.-A.	Saturday	Dec. 4
Panama	P. R. R.	Thursday	Dec. 9
Oruba	R.-M.	Saturday	Dec. 11
Allianca	P. R. R.	Tuesday	Dec. 14
Prinz Aug. Wilhelm	H.-A.	Saturday	Dec. 18
Colon	P. R. R.	Tuesday	Dec. 21
Magdalena	R.-M.	Saturday	Dec. 25
Advance	P. R. R.	Monday	Dec. 27
Prinz Joachim	H.-A.	Saturday	Jan. 1
Clyde	R.-M.	Saturday	Jan. 8
Prinz Aug. Wilhelm	H.-A.	Saturday	Jan. 15
Thames	R.-M.	Saturday	Jan. 22

Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

COLON TO NEW YORK.

Oruba	R.-M.	Wednesday	Dec. 1
Allianca	P. R. R.	Thursday	Dec. 2
Prinz Aug. Wilhelm	H.-A.	Tuesday	Dec. 7
Colon	P. R. R.	Thursday	Dec. 9
Advance	P. R. R.	Tuesday	Dec. 14
Magdalena	R.-M.	Wednesday	Dec. 15
Panama	P. R. R.	Tuesday	Dec. 21
Prinz Joachim	H.-A.	Tuesday	Dec. 21
Allianca	P. R. R.	Sunday	Dec. 26
Clyde	R.-M.	Wednesday	Dec. 29
Colon	P. R. R.	Sunday	Jan. 2
Prinz Aug. Wilhelm	H.-A.	Tuesday	Jan. 4
Advance	P. R. R.	Saturday	Jan. 8
Thames	R.-M.	Wednesday	Jan. 12

A fortnightly service of the steamers Ancon and Cristobal will be maintained as nearly as possible but changes from the schedule may be found necessary. The following is the schedule:

NEW YORK TO CRISTOBAL.

Cristobal	P. R. R.	Wednesday	Dec. 8
Ancon	P. R. R.	Wednesday	Dec. 15

CRISTOBAL TO NEW YORK.

Ancon	P. R. R.	Monday	Dec. 7
Cristobal	P. R. R.	Wednesday	Dec. 15
Ancon	P. R. R.	Wednesday	Dec. 29

NEW ORLEANS TO COLON.

Abangarez	U.F.C.	Saturday	Nov. 27
Atenas	U.F.C.	Saturday	Dec. 4
Turrialba	U.F.C.	Saturday	Dec. 11
Abangarez	U.F.C.	Saturday	Dec. 18
Atenas	U.F.C.	Saturday	Dec. 25

COLON TO NEW ORLEANS.

Abangarez	U.F.C.	Tuesday	Dec. 7
Atenas	U.F.C.	Tuesday	Dec. 14
Turrialba	U F.C.	Tuesday	Dec. 21
Abangarez	U.F.C.	Tuesday	Dec. 28

COLON TO BARBADOS, CALLING AT TRINIDAD.

Tagus	R.-M.	Tuesday	Dec. 7
Oruba	R.-M.	Tuesday	Dec. 21

A ship of the United Fruit Company's line sails from the dock at Colon, at 3 p. m., Tuesday of each week.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Tampican* for New Orleans, via Kingston, Ja., on or about December 4.

The steamers *David* of the National Navigation Company, and the *Taboga* of the Pacific Steam Navigation Company, leave Panama, for David, province of Chiriqui, and intermediate points, the first and third weeks of each month.

Vessels arriving at and departing from the port of Balboa during the week ending November 27, were as follows: Arrivals—November 22, *Ecuador*, from Guayaquil; November 25, *Pennsylvania*, from San Francisco; November 26, *Chile*, from south ports.

Departures—November 21, *Aztec*, for San Francisco; November 21, *Aysen*, for south ports; November 24, *Belle of Scotland*, for Puget Sound; November 26, *San José*, for San Francisco.

LOST—A child's bracelet of Roman gold in front of the post-office at Culebra, on November 20. A reward will be paid for its return to the post-office at Culebra.

CANAL RECORD

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The Canal Record

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Address all Communications
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

NOTES OF PROGRESS.

Canal Work in November.

The grand total of Canal excavation in November was 2,458,152 cubic yards, which is 369,646 cubic yards less than the total for October, and 1,422,185 cubic yards less than the highest record, that of March, 1909. Of the 2,458,152 cubic yards, 2,403,240 were charged to "work" excavation and 54,912 to "plant." The dry excavation amounted to 1,358,635 cubic yards, and was principally by steam shovels. The dredges removed 1,099,517 cubic yards in addition to the amount pumped into Gatun Dam by the three suction dredges on that work. The progress on the locks at Gatun and Pedro Miguel is referred to elsewhere in this issue.

In the Atlantic Division the total excavation was 563,350 cubic yards, 111,208 cubic yards more than in October. Of this total 105,461 cubic yards were dry excavation and the remainder was removed by dredges.

The total excavation in the Central Division was 1,164,411 cubic yards, which was 359,899 cubic yards less than in October. The features of the work in the Culebra Cut section in November are referred to elsewhere in this issue.

In the Pacific Division the excavation amounted to 730,391 cubic yards, of which 641,628 cubic yards were taken out by the dredges in the Pacific entrance.

A detailed statement of the excavation follows:

ATLANTIC DIVISION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, Dam and Spillway	63,452	....	63,452
Mindi	42,009	....	42,009
Total	105,461	....	105,461
Wet excavation—			
Atlantic entrance	457,889	....	457,889
Locks, Dam and Spillway	....	....	....
Permanent Plants	....	....	....
Total	457,889	....	457,889
Total wet and dry excavation	563,350	....	563,350
CENTRAL DIVISION.			
All dry excavation—			
Culebra Cut	1,070,792	....	1,070,792
Chagres section	93,619	....	93,619
Total	1,164,411	....	1,164,411
PACIFIC DIVISION.			
Dry excavation—			
Locks, Dams and Spillways	38,851	49,912	88,763
Diversions	....	....	....
Total	38,851	49,912	88,763
Wet excavation—			
Pacific entrance	627,791	5,000	632,791
Miraflores Locks	8,837	....	8,837
Diversions	....	....	....
Total	636,628	5,000	641,628
Total wet and dry excavation	675,479	54,912	730,391
TOTAL CANAL EXCAVATION.			
Dry excavation	1,308,723	49,912	1,358,635
Wet excavation	1,094,517	5,000	1,099,517
Total	2,403,240	54,912	2,458,152

Mean rainfall along Canal (eleven stations) 28.5 inches. Twenty-four working days.

By "Work" Excavation is meant excavation actually made for one of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc.; that is, it represents material taken from the area to be occupied by the Canal, and constitutes excavation useful for the completed Canal.

By "Plant" Excavation is meant excavation outside of any of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc. It includes material necessary to be excavated for construction purposes only and is chargeable against the particular plant item for which it is performed, such as Prism, Diversions, Locks, etc.

November in Culebra Cut.

November was the rainiest month of record in the region of Culebra Cut. The rainfall at Gamboa, 28.41 inches, was the highest in the 26 years in which a record has been kept for that place; at Empire it was 20.99 inches; at Culebra, 24.46 inches, and at Pedro Miguel 20.38 inches. The heaviest rains occurred between the hours of 7 a. m. and 5 p. m., when the shovels were at work. The north end of the Cut was flooded for a week, and the shovels between Bas Obispo and Las Cascadas were either completely out of service or were greatly hampered in their work. The slide at Culebra interfered somewhat with the handling of the spoil trains at the south end of the Cut. During the days of heaviest rains, November 15 to 20, there was a scarcity of common labor both in the excavation and on the dumps. Notwithstanding these handicaps, and the fact that there were only 24 working days, 1,070,792 cubic yards of material were taken from Culebra Cut, an average of 44,616 cubic yards a day. The amount of excavation in each district and by classes is shown in the following table:

DISTRICT.	Earth.	Rock.	Total.
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Bas Obispo	5,717	117,459	123,176
Empire	41,667	481,737	523,404
Culebra	62,024	362,188	424,212
Totals	109,408	961,384	1,070,792

The November excavation since the work in Culebra Cut was fully developed in 1907 is appended:

	Cubic Yards.
November, 1907	790,632
November, 1908	1,022,576
November, 1909	1,070,792

Building Gatun Locks—Forebay Mixing Plant.

All records for concrete laying in the locks of the Canal were broken at Gatun on December 1, when 1,664 cubic yards were placed. Four mixers supplied this quantity without overworking, and more could have been supplied if the cableways had been able to take it. The record by days follows:

	Cubic Yards.
November 29	932
November 30	1,100
December 1	1,664
December 2	1,408
December 3	1,582
December 4	1,600
Total	8,286

The record up to the close of work on December 4 was as follows:

	Amount—Cu. yds.	Average per day—Cu. yds.
August (seven days)	1,298	185
September (26 days)	11,934	459
October (31 days)	29,378	948
November (24 days)	30,098	1,254
December 1 to 4	6,254	1,563
Total	78,962	858

The collapsible steel forms for the main culvert under the east wall of the southeast lock are being placed, and work on the east wall is advancing.

The auxiliary mixing plant, which is to make the concrete for the south forebay of the locks, is ready for operation. It consists of two 2-yard cube mixers belt driven by an old French engine supplied with steam by three old French boilers. The capacity of the plant is about 600 cubic yards of concrete in eight hours. The mixers are installed at the south end of the east berm of the lock site, a part of the hill having been excavated for the foundations. A trestle has been built out from the berm over the mixers, and storage and charging hoppers have been so arranged, between the railroad on the trestle and the mixers about thirty feet below, that the charging is done by gravity.

The trestle will take six 12-yard dump cars at one time, and they will dump directly into duplex storage hoppers, each containing a compartment for sand and one for rock. Each of these hoppers is long enough on top to take the discharge from a single car. They are lined with ¼-inch steel plate. Below each storage hopper and fed from it is a duplex charging hopper, one compartment of which will hold 48 cubic yards of rock, and the other 24 cubic yards of sand. These charging hoppers are filled by the opening of a valve in the storage hopper; two barrels of cement are dumped into the rock and sand, and an automatic water

NOTES OF PROGRESS.

(Continued.)

feeder wets the material. The mixers dump into 2-yard buckets carried on narrow gage flat cars. These cars are hauled to the place where the concrete is to be laid by narrow gage locomotives, and locomotive cranes are used to lift the buckets from the cars into position for dumping.

Concrete Work at Pedro Miguel.

Concrete yardage at the Pedro Miguel Locks aggregated 3,050½ cubic yards for the week ending Saturday, December 4, which is the first time a single week's output has passed the 3,000-cubic yard figure. The high record for one day was established on December 3, when 571 cubic yards of concrete were placed. The total yardage for November amounted to 10,080½ cubic yards, which is 1,684½ cubic yards more than were laid in October. But for the heavy rains that lessened the output on a number of days, a still better showing would have been made. The record for the six working days of the week ending Saturday, December 4, was as follows:

	Cubic Yards.
November 29	449
November 30	490½
December 1	506½
December 2	532½
December 3	571
December 4	501
Total	3,050½

The amount of concrete laid from the beginning of work on September 1, to December 4, inclusive, is as follows:

	Cubic Yards.
September	2,369½
October	8,396¼
November	10,080½
December 1 to 4, inclusive	2,111
Total	22,957¼

Panama Railroad and High Water.

The train leaving Colon at 5.15 on the morning of November 19 was the only one to get through, and the water was about 3 feet 2 inches over the rails between Tabernilla and Frijoles. The river rose rapidly all day Friday and attained its maximum stage by mid-afternoon at Mamei, and by 6 p. m. at Frijoles station. The water was 4 feet 8 inches over the rails at Frijoles station and 5 feet over the rails at mile post 18 at this time. It fell rapidly all day Saturday and Saturday night over the territory from Frijoles to Bohio, and on Sunday morning the tracks were entirely uncovered everywhere except at the Black Swamp and Bridge 27.

The Chagres had overflowed its banks at Ahorca Lagarto during the flood, and completely filled up the Black Swamp, and as the elevation of this swamp is very low, it was a slow process to drain this water into the Chagres River. On Sunday afternoon the first train passed over the line. Water stood 20 inches over the top of the rails at Black Swamp and Bridge 27. It drained away from Bridge 27 readily on the night of the 28th, which lowered the water in the Black Swamp about 6 inches, and some traffic was resumed. The rails in the Black Swamp have been out of water since November 27.

A second bridge is being built near Bridge 28 to provide more drainage for the Black Swamp in case of floods. The drainage channel is also being cleared out, so that water will drain off more quickly.

Remarkably little damage was done to the roadbed by the flood, because of the lack of current and the slow rise of the water. It required only three carloads of ballast to restore the roadbed to its normal condition. The largest maintenance expense incurred was at Bridge 46, just south of San Pablo. There was grave danger for a time that it might be carried away by the log jam thrown against it in the flood. Two cranes were at work removing logs and lumber all day and part of the night of the 19th.

Transfer of the "Sandpiper."

The 20-inch suction dredge *Sandpiper*, which has been at work in the Pacific Division since August, 1908, will be taken apart and transferred to Gatun. There it will be reassembled and again put into commission. It was built by the Maryland Steel Company and was shipped to the Isthmus in sections during the early part of 1908 The dredge was put together at the Balboa shipways, was launched on May 15, and began its trial test on August 25, 1908. Soon afterwards it was put to work in the Canal prism opposite Corozal, and in October, 1908, was moved to a point south of the lock site at Miraflores. Since the middle of July of this year, it has been engaged the greater part of its time in pumping material into the core of the west dam.

The total output of the dredge for the six months, from May to October, inclusive, amounted to 164,941 cubic yards, or an average of 27,490 cubic yards per month. Its smallest output during this period was 7,322 cubic yards in May, and its largest output, 51,747 cubic yards in August. The *Sandpiper* has been working in what was formerly the bed of the Rio Grande, and owing to the nature of the material, which is composed largely of gravel mixed with niggerheads, its progress has been slow.

A 20-inch relay pump, operated by electric power from the Miraflores plant, will take the place of the dredge until the new hydraulic excavating plant has been installed.

Record Cargo of Fuel Oil.

The steamship *Pectan* of the Union Oil Company's fleet which arrived at the port of Balboa on December 1, discharged the largest cargo of fuel oil ever brought to the Isthmus, amounting to 66,616 barrels. The steamer's tank capacity is over 77,000 barrels, which, however, includes provision for its own fuel supply. The *Pectan* is the largest merchant vessel that has ever entered the port of Balboa, or La Boca, as it was formerly called. It is a steel single screw steamer of 7,291 tons, with a length of 471 feet, a breadth of 55 feet, and a depth of 32.9 feet. It was built in 1902, and is one of three vessels recently purchased by the Union Oil Company of California from the Shell Transport and Trading Company, Limited, of England. The *Pectan* will ply regularly between Port Harford, Cal., and Balboa, while the other two vessels will be used in the Chile trade.

Obituary.

George Hill, a white American, employed by the Panama railroad, died at Colon Hospital on November 30. He was born in Mobile, Ala., 59 years ago, and had lived on the Isthmus 27 years, his last place of residence being Bailamonos. His wife survives him.

DOCK NO. 14.

Handling of Freight to be Done by Quartermaster's Department.

The work of unloading supplies at Dock No. 14 in Cristobal was taken over on December 1 by the Canal Commission from the Panama Railroad Company, and hereafter the ships that tie up there will be unloaded under the direction of the Quartermaster's Department. This change was made in order that the double checking of cargo by Panama railroad and Commission checkers may be avoided, and that all the handling of cargo for the Canal work may be done under the direction of the force that supervises its distribution, namely that of the Mount Hope Depot. As part of the new arrangement, the order directing that the Brown hoist used for unloading coal be moved from the slip at the drydock to Dock No. 14 has been rescinded. It was found that the change would reduce the capacity of the dock by one-half, permitting only one ship to tie up where two can at present, and because of necessitating a change in the dock loading tracks, would cause as much inconvenience to the Quartermaster's Department as it now does to the marine shop work of the Atlantic Division.

In 1905 the docks at Colon had become so congested with materials destined for the Canal work that the organization of the Panama railroad was directed to take charge of the wharves and unload the vessels. At that time the Commission was not in a position to do unloading for private parties, and this was an additional reason why the wharves were turned over to the railroad organization. Dock No 14. was completed in 1906, and although built especially for the purpose of unloading Canal materials, it also was put under the jurisdiction of the railroad at an annual rental. The conditions that resulted in the wharves being conducted by the railroad are inoperative now, and new ones have arisen to make the transfer advisable.

Before the change was decided upon an analysis of the business at this dock was made, and it was found that although the proportion of freight handled over all the docks at Cristobal and Colon is about half Commission and half private, 87 per cent of the freight handled over Dock No. 14 is destined for the Commission, 9 per cent for the Panama railroad, and 4 per cent for private parties. During the first five months of 1909, there were handled 58,917 tons of material, of which 51,473 tons were consigned to the Commission, 5,189 tons to the Panama Railroad Company, and 2,255 tons to private parties.

The character of the cargo handled for the Commission and the amounts, for the period from January 1 to May 31, 1909, are as follows:

General cargo	16,607,559 tons.
Track material	11,309,898 tons.
Cross ties	189,408 pieces.
Lumber	1,724,420 feet.
Piling	317,555 feet.

Panama Railroad Reorganization.

In the reorganization of the Panama railroad personnel under General Superintendent J. A. Smith and Chief Engineer Frederick Mears the position of roadmaster of maintenance has been abolished. H. P. Warren has been made engineer of construction; M. B. Connolly roadmaster of construction, and E. Zook engineer of maintenance.

SLIDES IN CULEBRA CUT.

Recent Movements Caused by Excavation and Heavy Rains.

There have been three distinct movements of the slide in Culebra Cut at Culebra village since the heavy rains of November saturated the ground. The first of these occurred on November 16, when a mass of earth estimated at approximately 110,000 cubic yards broke away from the west bank and moved into the prism of the Canal, carrying away a portion of the old main line of the Panama railroad and putting three construction tracks out of service. On November 28 this material moved farther toward the center line and filled in the pioneer shovel cut, which has been used as a drainage ditch to carry water from the summit near Empire to the diversion at the south end at Pedro Miguel. This material came from the bank back of the Commission clubhouse. During the morning of December 4 the west bank gave way a few hundred feet north of the first slide and settled down into the Cut. The earth raised a mound thirty feet high in the prism of the Canal, and pushed on over the pioneer shovel cut past the center line.

Although these breaks in the bank at Culebra occurred at different times, and are in a sense local, they really form parts of one large movement of material in the west bank toward the prism of the Canal. The shovels excavate from the bottom of the slope and remove the supporting toe. The rain saturates the earth, making it heavier and more mobile, and the slide results. For about two years there has been a crack in the west bank at Culebra, nearly 2,000 feet long and extending back toward the village a distance of from 600 to 900 feet from the center line. There has been no appreciable widening of this break as a result of the recent rains, but it is considered as defining the limits of the Culebra slide. It is estimated that material to the amount of about 2,000,000 cubic yards is comprehended within these limits, which is more than is in the slide at Cucaracha.

In the estimates of quantities to be removed from the Central Division before the completion of the Canal, made by the Commission in 1908, an allowance of 3,862,000 cubic yards was made for slides, and this amount covers a greater quantity of material than has yet shown any evidence of moving into the Canal.

The three movements in the west bank at Culebra have cut off the drainage of the Cut between Culebra and the summit near Empire. Before the pioneer cut can be opened, and drainage by gravity restored, it will be necessary to pump out the water that has collected north of the slide. To this end two duplex pumps from the old French stock have been installed and are pumping the water into the drainage ditch south of the slide. Six steam shovels are at work digging out the material that has slid into the Cut from the west bank.

The east bank of the Cut opposite Culebra village has broken 90 feet back from the top of the slope and a quantity of material is moving into the prism of the Canal. This slide is small compared with that on the west bank. There has been no increase in the movement of Cucuracha slide since the heavy rains of November set in, although the mass of earth has continued its steady progress toward the prism of the Canal. At Whitehouse the east bank of the Cut continues to crumble, but no new cracks have developed. Small slides were developed at several places during the heavy rains of last month, but the movements at Culebra are the only ones that have required extra efforts to control.

Employments on the Isthmus.

All work connected with the handling of requisitions for gold employes was transferred recently from the Quartermaster's Department to the office of the Chairman. In connection with this work a bulletin is now issued at frequent intervals, in which are listed all vacancies in the gold force and also the names of local applicants for employment, with a statement of their previous experience and qualifications. Copies of this bulletin are sent to the head of each department and division.

It is expected that by means of this bulletin it will frequently be possible to fill vacancies by the transfer of employes from one department, where their services are no longer needed, to another in which they can be used, and that it will be possible to fill other vacancies by the appointment of local applicants possessing the necessary qualifications. This will obviate the necessity of bringing down new men from the United States, and effect a saving in recruiting and transportation charges. When vacancies cannot be filled by transfer, and no competent local applicants are available, requisition is made on the Commission's Washington office for the appointment of men with the desired qualifications.

Missing Man.

Mrs. J. Gustafson of Omaha, Neb., would be glad to receive information concerning the whereabouts of her brother, A. Harren, who was last heard of in Barbados, British West Indies, and is supposed to have migrated to the Isthmus of Panama some time about the middle of 1909. It is requested that any one possessing information will communicate it to the British Legation at Panama.

Sailboat Accident—Two Drowned.

George A. Hennigh, an American, 22 years old, employed as a machinist in the marine shops at Cristobal, was drowned in Cristobal Harbor, Sunday afternoon, December 5, while rescuing his sister Miss Mary Hennigh. A Barbadian named Belfield Nurse, aged 21, was also drowned while assisting Hennigh. The brother and sister, their father, C. G. Hennigh, and two colored men, who had been taken along as assistants, were returning from a sailing trip.

As the boat was turned toward the shore off Pier 13, there came a sudden gust of wind which swung the boom around striking Miss Hennigh and throwing her into the water. The brother immediately sprang after her, followed by one of the colored men. Both were considered expert swimmers, and while they succeeded in keeping Miss Hennigh above water until the arrival of another boat which had put out from shore, they were drawn down by the strong undertow and disappeared from sight. The body of Hennigh was recovered on Tuesday afternoon, December 7.

EXECUTIVE ORDERS.

Recruiting of Laborers Forbidden.

Any person who, as principal or agent, shall, with the intent or for the purpose of recruiting on the Canal Zone mechanics, laborers, artisans, or any character of workmen, to go into a foreign country, induce or attempt to induce any person who is working for or is under contract to work for, or who desires to work for, the Isthmian Canal Commission or the Panama Railroad Company, or a contractor of either or both of them, to cease to work for, or break any such contract to work for, or not to begin work for, the Isthmian Canal Commission or the Panama Railroad Company, or a contractor of either or both of them, or to leave the Canal Zone with a view or for the purpose of working in a foreign country, shall be deemed guilty of a misdemeanor and, upon conviction thereof, shall be punished by a fine not exceeding one thousand dollars ($1,000) or by imprisonment in the common jail not to exceed six (6) months, or by both such fine and imprisonment, at the discretion of the court. WM. H. TAFT.

THE WHITE HOUSE,
November 23, 1909.

Hours of Train Dispatchers.

Under authority vested in me by law, it is ordered:

That no operator, train dispatcher, or other employe of the Panama Railroad Company who by the use of the telegraph or telephone dispatches, reports, transmits, receives, or delivers orders pertaining to or affecting train movements shall be required or permitted to be or remain on duty for a longer period than nine hours in any twenty-four-hour period in all towers, offices, places, and stations continuously operated night and day, nor for a longer period than thirteen hours in all towers, offices, places, and stations operated only during the daytime, except in case of emergency, when the employes named in this order may be permitted to be and remain on duty for four additional hours in a twenty-four-hour period on not exceeding three days in any week.

This order shall be in effect on and after January 1, 1910. WM. H. TAFT.

THE WHITE HOUSE,
November 23, 1909.

Commissary Sales.

Occasionally it is necessary for the Commissary to sell certain classes of goods below the usual price in order to dispose of stock before it has had time to deteriorate. The amount of material thus disposed of is small, but in order that all employes may have an equal opportunity to make purchases, it has been directed that notice of such sales be inserted in THE CANAL RECORD hereafter.

Christian Brothers' School.

A secondary school is conducted in Cristobal by the Christian Brothers, with a a course that includes the regular high school subjects, and in addition, shorthand and typewriting. There is also a night school for men. The school building and grounds occupy five lots in the Panama railroad reservation. The building is modern in its appointments from both a hygienical and pedagogical point of view. The student body is composed of day pupils and boarders.

RECORD OF EXCAVATION SINCE AMERICAN OCCUPATION.

MONTHLY TOTALS BY CUBIC YARDS, PLACE MEASUREMENT.

ATLANTIC DIVISION.

COLON—STEAM SHOVELS.

Months.	1907*	1908*	1909	
	From Canal Prism	From Canal Prism	From Canal Prism	Outside Canal Prism
January	....	62,835	45,664	....
February	....	65,632	46,046	....
March	....	81,850	70,713	....
April	....	67,436	74,368	....
May	....	54,333	71,407	....
June	....	32,022	80,101	....
July	731	23,515	82,378	....
August	15,257	16,309	66,249	....
September	28,837	32,112	61,437	....
October	41,078	45,475	72,643	....
November	40,003	47,183	42,009	....
December	46,945	62,253	....	....
Totals	172,851	590,955	713,015	....

Total to December 1, 1909—1,476,821 cubic yards.
*No work done outside of Canal Prism

COLON—DREDGES.

Months.	1907		1908		1909	
	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	....	111,100	444,403	46,298	521,050	....
February	....	110,002	401,887	25,835	444,910	....
March	....	84,145	515,223	31,663	461,208	....
April	....	69,889	496,366	....	470,635	....
May	....	133,847	564,386	....	315,370	....
June	17,000	107,118	572,749	....	182,575	....
July	104,322	5,600	625,497	....	348,451	....
August	189,170	5,127	638,217	....	422,846	....
September	403,842	....	624,776	....	410,574	....
October	409,632	5,488	505,260	....	314,778	....
November	417,297	5,500	570,832	....	457,889	....
December	428,053	14,782	679,604	....	....	....
Totals	1,969,316	652,598	6,639,200	103,796	4,350,286	....

Total to December 1, 1909—15,142,661 cubic yards.

In this total are included 399,820 cubic yards excavated in 1905, and 1,027,645 cubic yards in 1906. There were also 38,425 cubic yards removed by dredges at the Gatun dam site in 1907.

GATUN LOCKS, DAM AND SPILLWAY—STEAM SHOVELS.

Months.	1907		1908		1909	
	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	47,539	....	193,567	98,588	69,001	33,689
February	70,177	....	176,291	106,506	61,819	33,212
March	100,151	....	202,763	171,835	59,598	30,453
April	103,459	....	196,109	177,347	58,088	11,921
May	70,528	....	138,815	127,932	48,198	4,588
June	71,181	3,832	116,998	127,953	28,943	7,613
July	59,537	14,628	136,816	76,543	36,098	2,960
August	78,357	26,866	130,263	57,999	40,346	....
September	87,423	36,315	104,780	41,210	42,047	7,898
October	136,777	40,236	109,667	44,397	41,175	16,146
November	121,635	40,987	83,527	34,751	63,452	....
December	160,795	69,756	65,950	53,954	....	....
Totals	1,107,559	232,620	1,655,546	1,119,015	548,765	148,480

Total to December 1, 1909—4,838,613 cubic yards.

In this total are included 26,628 cubic yards excavated from the Canal prism October to December, 1906. In addition there were 488,533 cubic yards removed by dredges from Gatun locks in December, 1908, January, February, March, April, May, June and July, 1909.

CENTRAL DIVISION.

CULEBRA SECTION—STEAM SHOVELS.

Months.	1904	1905	1906	1907	1908	1909
January	....	70,650	120,990	566,750	1,227,022	1,150,249
February	....	75,200	168,410	639,112	1,248,265	1,215,648
March	....	132,840	239,178	815,270	1,290,885	1,434,597
April	....	126,749	213,177	879,527	1,242,574	1,274,356
May	27,556	75,935	196,209	690,365	960,840	1,126,963
June	32,551	76,905	212,623	624,586	1,134,032	1,242,134
July	31,599	78,570	159,789	770,570	1,121,325	1,200,828
August	35,056	49,210	244,823	786,866	1,173,800	1,173,370
September	25,220	44,085	291,452	753,468	1,122,860	1,235,978
October	19,695	52,940	327,009	834,499	1,160,101	1,302,901
November	28,860	60,540	221,642	790,632	1,022,576	1,070,792
December	42,935	70,630	307,689	1,025,485	1,210,046	....
Totals	243,472	914,254	2,702,991	9,177,130	13,914,326	13,427,816

Total to December 1, 1909—40,379,989 cubic yards.

CHAGRES SECTION—STEAM SHOVELS.

Months.	1907*	1908		1909	
	From Canal Prism	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	....	169,447	....	389,399	....
February	....	200,145	....	428,988	....
March	....	324,233	....	619,491	....
April	....	329,483	....	508,410	....
May	....	235,902	....	386,170	....
June	....	322,145	....	275,900	....
July	....	345,757	....	233,897	....
August	2,900	366,810	....	231,543	....
September	21,546	346,948	....	235,818	....
October	25,627	424,911	....	221,409	....
November	44,044	336,390	....	93,619	....
December	98,652	383,948	....	....	....
Total	192,769	3,786,119	....	3,624,644	....

Total to December 1, 1909—7,603,532 cubic yards.
*No work done outside Canal prism.

CANAL EXCAVATION TO DATE.

		Cu. Yds.
By French Companies		81,548,000
By Americans—		
Steam shovels	56,823,221	
Dredges	35,527,504	
Total		92,350,725
May 4 to December 31, 1904	243,472	
January 1 to December 31, 1905	1,799,227	
January 1 to December 31, 1906	4,948,497	
January 1 to December 31, 1907	15,765,290	
January 1 to December 31, 1908	37,070,887	
January 1 to November 30, 1909	32,523,352	

EXCAVATION IN TERRITORY OF PRESENT DIVISIONS

May 4, 1904, to November 30, 1909.

DIVISIONS.	Amount excavated. Cubic yards—Total.		Estimated amount yet to be excavated. Cubic yards—Total.	
Atlantic—				
Dry excavation	6,315,434	21,985,053	3,246,477	21,092,258
Dredges	15,669,619		17,845,781	
Central, all dry excavation—				
Culebra Cut	40,379,989	47,983,521	37,662,306	41,810,972
All other points	7,603,532		4,148,666	
Pacific—				
Dry excavation	2,524,266	22,382,151	3,406,314	19,412,640
Dredges	19,857,885		16,006,326	
Grand totals		92,350,725		82,315,870

PACIFIC DIVISION.

PEDRO MIGUEL LOCKS—STEAM SHOVELS.

Months.	1908		1909	
	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	....	....	83,726	....
February	....	....	57,138	1,104
March	....	....	93,261	2,363
April	....	....	101,365	....
May	....	....	57,523	....
June	6,832	6,396	70,971	....
July	18,964	3,684	77,503	....
August	21,203	1,014	58,025	....
September	28,750	83	48,825	....
October	47,688	1,187	39,002	....
November	55,401	....	20,207	....
December	65,578	....	....	....
Totals	244,416	12,364	707,546	3,467

Total to December 1, 1909—967,793 cubic yards.

MIRAFLORES LOCKS, DAMS AND SPILLWAY—STEAM SHOVELS

Months.	1908		1909	
	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	7,203	....	54,383	6,819
February	38,661	385	44,294	9,395
March	67,963	5,231	46,616	4,801
April	92,261	6,682	38,275	21,785
May	54,606	18,417	30,723	16,865
June	68,691	....	39,942	15,711
July	87,675	16,694	43,736	7,263
August	91,065	3,183	35,338	108
September	88,605	2,318	31,363	440
October	71,201	3,499	25,118	231
November	47,109	5,821	27,481	....
December	65,416	4,234	....	....
Totals	780,456	66,464	417,269	83,418

Total to December 1, 1909—1,347,607 cubic yards.

There were also 78,233 cubic yards removed by steam shovels at Balboa locks and dams in 1907; 139,298 cubic yards at Cardenas Hill March to December, 1908, and 309,647 cubic yards by dredges at Miraflores Locks in January, February, March, April, May, June, July, August, September, October, and November, 1909.

BALBOA—DREDGES.

Months.	1905	1906	1907		1908	1909
	Outside Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism	From Canal Prism	From Canal Prism
January	....	95,940	....	94,710	460,250	469,529
February	....	95,940	....	93,480	663,519	671,477
March	....	116,820	....	92,319	783,281	865,696
April	....	110,700	....	104,855	676,539	731,767
May	....	112,340	....	122,157	530,466	720,753
June	50,676	62,697	64,352	69,223	656,621	844,685
July	41,533	98,400	108,338	....	696,170	733,181
August	54,530	111,930	168,284	....	737,774	623,263
September	114,308	105,780	144,625	9,350	750,080	662,976
October	81,836	97,170	357,122	....	762,276	720,920
November	71,176	92,988	365,423	....	609,089	627,791
December	71,094	90,528	349,551	....	729,960	....
Totals	485,153	1,191,233	1,557,695	586,094	8,056,025	7,672,038

Total to December 1, 1909—19,548,238 cubic yards.

There were also 172 cubic yards removed by steam shovels outside of the prism during October, 1908.

THE RAINIEST MONTH.

Precipitation in November Compared With That of Other Months.

November was unique in the weather annals of the Isthmus of Panama from the threefold fact that an unusual amount of rain fell, the Chagres River carried the greatest volume of water ever recorded at Alhajuela and Bohio, and the temperature was extraordinarily low. A discussion of the rainfall with comparative data is appended, together with a statement of weather conditions for the month of November. A detailed record of river discharge will be published in the near future.

The month was the coldest of record in the Canal Zone. The maximum temperature in the sun at Culebra was 96 degrees Fahrenheit on the 6th, and the average temperature was below that of any month of previous record. The deficiency for the month was two degrees over the Pacific section, one degree over the central section, and 1½ degrees over the Atlantic section. Fogs occurred with diminished frequency and intensity over the central section. Of those which occurred 30 per cent were dissipated by 6 a. m., 62 per cent by 7 a. m., and 100 per cent by 8 a. m.

The average rainfall for the month over the Canal Zone was 30 inches, the excess over the average for each section being:

Section.	*Inches.*
Pacific	8.78
Central	16.07
Atlantic	19.24

The November record for the stations that have been longest established is compared with the highest previous record for one month, as follows:

STATION.	Years of record.	November 1909.	MAXIMUM FOR ONE MONTH.
		Ins.	*Ins. Month. Year.*
Cristobal	39	42.50	43.01—November...1862
Bohio	15	35.39	38.31—August......1898
Gamboa	26	28.41	24.06—November...1893
Culebra	20	24.46	34.60—December...1885
Ancon	12	15.14	20.27—October.....1900

The average rainfall along the Isthmus at 21 stations was 29.99 inches. The average annual rainfall in the United States is about 36.3 inches, and a greater amount than this was recorded in the month of November at four stations on the Isthmus. The rainfall in November for the last three years is shown in the following statement:

STATION.	1907.	1908.	1909.	Years of record.	Station average.	No. rainy days—1909.
Atlantic Division—	*Ins.*	*Ins.*	*Ins.*			
Porto Bello	......	41.73	45.03	1	29.64	29
Cristobal	15.37	31.72	42.50	39	21.26	26
Brazos Brook	13.90	27.12	38.17	3	21.56	30
Gatun	14.27	21.37	41.10	4	19.26	30
Monte Lirio*	......	25.57	34.73	1	......	26
Trinidad	......	14.19	33.28	1	......	30
Central Division—						
Bohio	11.38	19.01	35.39	15	18.13	30
Tabernilla	10.80	10.85	30.84	2	10.82	30
San Pablo	10.93	8.90	27.59	2	9.92	30
Gorgona	......	......	30.24	5	11.76	30
Gamboa	10.43	7.32	28.41	26	11.76	30
Empire	10.40	4.46	20.99	4	9.77	28
Camacho	9.51	6.65	27.07	3	11.10	29
Culebra	6.91	5.10	24.46	20	12.00	29
Pacific Division—						
Rio Grande	7.62	5.30	24.17	4	8.24	29
Pedro Miguel	......	8.65	20.38	1	......	30
Miraflores	......	7.38	22.43	1	......	27
Balboa	10.03	7.37	15.99	10	9.56	28
Ancon	10.51	9.12	15.14	12	11.15	27
Upper Chagres—						
Alhajuela	4.32	10.55	36.22	10	12.53	28
El Vigia	......	12.07	35.64	1	......	30

*Station in operation 26 days.

The rainfall at Porto Bello in November was the largest ever recorded on the Isthmus, 45.03 inches, the greatest amount previously recorded being that of November 1862, when 43.01 inches fell at Cristobal. Of the stations where the record runs for a period of more than one year the heaviest rainfall known was recorded last month at Brazos Brook, Gatun, Tabernilla, San Pablo, Gorgona, Gamboa, Empire, Camacho, Rio Grande, Pedro Miguel, Miraflores, and Balboa. In other words, although the record was not broken for every station the precipitation on the Atlantic and Pacific slopes and in the central region was so excessive, that November may be considered one of the rainiest months of authentic record on the Isthmus. A statement giving the data from which this inference is drawn follows:

STATIONS.	Years of record.	Station average November for years of record.	November 1909.	Maximum November for years of record.	Previous absolute maximum for one month years of record.
Atlantic Section—		*Ins.*	*Ins.*	*Ins.*	*Ins. Month. Year.*
Porto Bello	1	29.64	45.03	41.73—1908	41.73—November..1908
Cristobal	39	21.26	42.50	43.01—1862	43.01—November..1862
Brazos Brook	3	21.56	38.17	27.12—1908	27.12—November..1908
Gatun	4	19.26	41.10	24.51—1906	28.81—May........1905
Monte Lirio	1	....	34.73	25.57—1908	25.57—November..1908
Trinidad	1	....	33.28	14.19—1908	19.00—August.....1908
Sums	....	91.72	234.81	176.13	185.24
Means	....	22.93	29.14	29.36	30.87
Central Section—					
Bohio	15	18.13	35.39	34.31—1901	38.31—August.....1898
Tabernilla	2	10.82	30.84	10.85—1908	26.46—October....1907
San Pablo	2	9.92	27.59	10.93—1907	15.81—October....1909
Gorgona	5	11.76	30.24	17.27—1894	25.12—May........1897
Gamboa	26	11.76	28.41	24.06—1893	24.06—November..1893
Empire	4	9.77	20.99	19.02—1906	19.02—November..1906
Camacho	3	11.10	27.07	17.13—1906	17.29—May........1908
Culebra	20	12.00	24.46	24.10—1896	34.60—December..1885
Sums	....	95.26	224.98	157.67	200.67
Means	....	11.91	28.11	19.71	25.08
Pacific Section—					
Rio Grande	4	8.24	24.17	15.59—1906	15.59—November..1906
Pedro Miguel	1	....	20.38	8.65—1908	17.47—October.....1909
Miraflores	1	....	22.43	7.38—1908	18.31—June........1909
Balboa	10	9.56	15.99	14.64—1902	14.68—August.....1903
Ancon	12	11.15	15.14	19.21—1879	20.27—October....1900
Sums	....	28.96	98.11	65.47	86.32
Means	....	9.65	19.62	13.10	17.26
Upper Chagres—					
Alhajuela	10	12.53	36.22	21.50—1901	26.10—August.....1906
El Vigia	1	....	35.64	12.07—1908	20.93—October.....1909
Sums	....	12.53	71.86	33.57	47.03
Means	... .	12.53	35.93	16.78	23.52
Total—					
Sums	....	228.47	629.77	432.84	519.26
Means	....	14.28	29.99	20.60	24.73

WEATHER CONDITIONS, CANAL ZONE, NOVEMBER, 1909.

STATIONS.	Press're (reduc'd to mean of 24 hours.)	Temperature.					Mean relative humidity.	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches.	Station average per month.	Number of rainy days.	Total movement (in miles.)	Prevailing direction.	Max. velocity (in miles.)	Direction.	Date.
Cristobal	29.848	76.5	85	8	69	29	93	42.50	....	26	6,129	S.E.	39	S.W.	....
Culebra	29.854	76.4	89	5	68	30	94	24.46	....	29	4,591	N.W.	30	N.	....
Ancon	29.845	77.0	90	5	68	30	91	15.14	... .. .	27	4,891	N.W.	26	S.E.	....

Rainfall, December 1 to 4, 1909, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Division—	*Ins.*		*Ins.*
Cristobal	.09	4	.18
Brazos Brook	.10	1	.25
Gatun	.17	2	.34
Central Division—			
Bohio	1.38	4	1.49
Tabernilla	.08	4	.16
San Pablo	.34	4	.55
Gorgona	.04	2	.10
Gamboa	.12	4	.15
Empire	.09	4	.12
Camacho	.06	2	.10
Culebra	08	4	.17
Pacific Division—			
Rio Grande	.10	4	.15
Pedro Miguel	.09	1	.10
Miraflores	.00	....	.00
Balboa	T	....	T
Ancon	.00	....	.00

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Coast—	*Ins.*		*Ins.*
Porto Bello (to 5 p. m. Dec. 3)	.28	2	.36
Nombre de Dios	.....	....	......
Upper Chagres—			
El Vigia	.06	4	.06
Alhajuela	.01	4	.03

Sons of the Revolution.

Members of the Society of the Sons of the American Revolution residing on the Isthmus, interested in forming a local society for patriotic and social purposes are invited to correspond with the undersigned.

WILLIAM A. ERSKINE,
GEORGE C. FERRIS.

Balboa, December 4, 1909.

SOCIAL LIFE OF THE ZONE.

Women's Clubs.

A business meeting of the Ancon Woman's Club was held in the clubroom on Wednesday afternoon, December 1. The librarian reported that the attendance of subscribers on Monday evenings for the exchange of books continues large.

A social meeting of the Pedro Miguel Woman's Club was held on Wednesday, December 1, at the home of Mrs. Frank Roberts, Empire. The chairmen of the three departments into which the club is divided are: Mrs. James Doyle, literature; Mrs. Mark White, home; and Mrs. W. T. Piper, philanthropy. These chairmen have charge of the arrangements and details of the meetings.

A business meeting of the Paraiso Woman's Club was held on the afternoon of November 24. The club has extended an invitation to Mrs. Thomas E. Brown, jr., president of the Canal Zone Federation to be present at the meeting on Wednesday, December 8. A social meeting of the club was held on December 1.

There was a good attendance at the business meeting of the Empire Woman's Club on Thursday afternoon, November 25. The Christmas bazaar will be held in the Commission clubhouse on the evening of December 15. The Tivoli orchestra has been engaged for the dance which is to follow the sale. Efforts are being made to secure special trains to run from Gorgona and Pedro Miguel.

The meeting of the Gorgona Woman's Club was held at the home of Mrs. A. J. Sweet, chairman of the home department, on December 2. An evening entertainment will be held by the club at the Commission clubhouse on December 15. Music, games, and contests will be the features. A small admission fee will be charged. On the following day, at the monthly business meeting, the club will entertain the president of the Canal Zone Federation of Woman's Clubs. The department meeting on December 10, will be held at the home of Mrs. B. F. Henckle.

At the literary meeting of the Cristobal Woman's Club on Wednesday, December 1, Lieut.-Col. C. A. Devol made an address on "Red Cross Work in San Francisco." The Christmas bazaar, under the home department, will be held in the Commission clubhouse on the afternoon and evening of December 15. A feature will be a tea room especially arranged for the accommodation of visitors from the line in which light refreshments will be served.

The Club Yearbook has been issued and is in circulation among the members. The schedule calls for semimonthly literary meetings from October to April 10, when the annual meeting will be held. Among the subjects of lecture for the year are: "What Eight Million Club Women Accomplished in 1909," "The Educational System of the United States and the Canal Zone," and "Mexico." The art and literature department is studying three plays, "Richard III," "As You Like It," and "Taming of the Shrew." The meetings are held on the fourth Monday in the month. The home department meetings are held on the second Monday in the month.

A choral society has been formed in Ancon. Meetings are held at the home of Mr. and Mrs. W. T. Dozier on Wednesday evenings for the purpose of practicing church and other music.

During the past few months the United States Marine Band has given a concert every Tuesday afternoon at Bas Obispo.

Church Work.

The Bas Obispo Sunday school has a membership of 20. The attendance of both teachers and pupils is regular. An organ has recently been purchased by the Sunday school.

At Culebra the Sunday school will unite with the Young Men's Christian Association for the Christmas celebration. The entertainment will be held on Christmas Eve at the clubhouse. Gifts will be distributed to all the children residing in Culebra.

Under the auspices of the Ladies' Aid Society of the Cristobal Union Church there was a concert by the Panama railroad orchestra in the Commission chapel on the evening of November 30. The soloists were Mrs. Otis Riddle, vocalist, and Mr. John Gray, violinist.

The Rev. A. Stroebele, a Catholic missionary from Cuba, preached in the Wesleyan church at Colon on the night of November 21, and on the following evening in the same church he delivered a lecture on work among colored people. He will lecture to Americans at the Union church in Cristobal on the evening of December 10, on "Americans in Cuba." He will be on the Isthmus about a month delivering free lectures at various places in Panama and the Canal Zone.

Bishop Frank M. Bristol, missionary bishop of the Methodist Episcopal Church in South America and the Isthmus of Panama, is expected to pay a visit to the church in Panama, arriving in Colon on January 2. During his visit the congregation will hold a reception in his honor. The Ladies' Missionary Society is actively preparing for the Christmas celebration for the Sunday school and the mission day school. There are 60 pupils in the two schools. A tree and entertainment will be provided for them in the church on Christmas Eve. The organization of a branch missionary society at Gatun is projected.

Red Cross.

The first year of the Canal Zone Branch of the American National Red Cross will expire on February 1, 1910. Members who wish to renew their subscriptions may hand their annual dues, $1, to the District Quartermaster at their station, or forward the sum to the acting treasurer, Major Charles F. Mason, Ancon, Canal Zone. The present membership is 1,334.

The Cristobal chapter of the Canal Zone Red Cross has perfected arrangements for a flower dance, to be held in Lincoln House, Colon, on Friday evening, December 31.

Libraries.

The library extension committee of the Canal Zone Federation of Women's Clubs held a meeting in the women's rest room, Cristobal on Friday, December 3. Plans are being perfected for the formation of a traveling juvenile library from the various club libraries. It is expected that the Ancon Sunday school will join in the movement by placing a number of books in circulation. The Cristobal Woman's Club has appropriated the sum of $25 for the purchase of new books for the children's library.

The library for the Zone penitentiary at Culebra is making satisfactory progress. There is on hand a fund of $70, part of which will be used to purchase 150 volumes from the United States Navy League, at ten cents a volume. In addition, 75 books have been ordered at wholesale prices. These books are expected to be delivered on the Isthmus this month and the library will soon be in working order.

PERSONAL.

Mr. A. I. Campbell, Resident Engineer in the Pacific Division has resigned, and he will leave for the States on the *Colon*, on December 9.

Mr. A. S. Zinn of Empire, Resident Engineer in the Central Division, sailed on the *Abangarez* on Tuesday, December 7, on his annual leave of absence in the States.

Atlantic Athletic Association.

A baseball park association, to be known as the Atlantic Athletic Association, has been formed at Colon with a capital stock of $2,000, fully subscribed. It will be incorporated under the laws of the Republic of Panama, and will undertake the laying out of a baseball park and the erection of a grand stand and bleachers in that section of Colon bounded by Thirteenth street, Fourteenth street, E street, and Hudson Lane. The site is on Panama railroad land and was assigned to the association for baseball purposes by the president of the railroad company. The park enclosure will be 267 by 400 feet in size, or a trifle larger than the Gorgona park of the Isthmian League, and the grounds can be put in condition at small expense. The grand stand will have a seating capacity of 500, and the bleachers of 250 more.

The incorporators are: R. H. Wardlaw, John Burke, J. E. Butler, R. G. Castel, J. M. O'Brien, and George L. Dorand. At a meeting of the association held on Wednesday evening, December 1, the following officers were elected: Judge Lorin C. Collins, president; R. H. Wardlaw, vice-president; W. C. McCormick, secretary; R. G. Castel, treasurer, and George Morell, auditor. A board of seven directors was elected consisting of John Burke, A. S. James, R. H. Wardlaw, E. C. Newsam, E. A. Harrigan, W. S. Perry, and Robert Wilcox. A building and grounds committee was also chosen and will at once proceed with the arrangements for the park.

The Atlantic League for the 1909-10 season will comprise four clubs, as follows: Commissary-Subsistence, Colon, Panama railroad, and Civil Administration. The opening game will take place on Christmas Day, December 25.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Culebra, C. Z., on Sunday, December 12, 1909, at 5.45 p. m. The program follows:

1 March—*Grand Opera*........................Missud
2 Selection—*The Three Twins*..............Hoschna
3 Waltz—*Thousand and One Nights*........Strauss
4 Morceau Elegant—*Golden Blonde*......Eilenberg
5 Potpourri of Southern Songs.............Lampe
Introducing "Swanee River," "Listen to the Mocking Bird," "My Old Kentucky Home," "Arkansas Traveler," "Massa's in the Cold, Cold Ground," "Zip Coon," "Old Black Joe," and "Dixie."
6 Overture—*Light Cavalry*....................Suppe
7 { a A Rag Novellette—*Dope*...............Powell
{ b *Henry's Barn Dance*........................Henry
8 Flower Song—*Adoration*........... .....Barnard
9 March—*Under the Double Eagle*..........Wagner

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Porto Bello, on Sunday, December 19.

OFFICIAL CIRCULARS.

Chief Engineer, Panama Railroad.

CULEBRA, C. Z., December 1, 1909.

ORDER:

Lieut. Frederick Mears is hereby appointed Chief Engineer of the Panama Railroad Company, and will report direct to this office in matters pertaining to the construction of the relocated line and to the General Superintendent in matters pertaining to maintenance. GEO. W. GOETHALS, *President.*

Requisitions on Relocation.

CULEBRA, C. Z., December 3, 1909.

ALL CONCERNED:

Mr. C. A. McIlvaine, Chief Clerk, is authorized to sign Panama railroad requisitions for material to be used in the work on the relocated line. "By direction of the President."

GEO. W. GOETHALS, *President.*

Panama Railroad Reorganization.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., November 30, 1909.

ALL CONCERNED:

The position of superintendent of the Panama railroad is hereby abolished. All matters pertaining to the movement of traffic will be handled by the trainmaster. All agents and the inspector heretofore reporting to the superintendent will report to this office. J. A. SMITH, *General Superintendent.*

COLON, R. P., November 30, 1909.

ALL CONCERNED:

Effective December 1, the jurisdiction of the superintendent stevedore will be limited to Colon and Cristobal docks, and he will report to the receiving and forwarding agent.

J. A. SMITH, *General Superintendent.*

Transfer of Storehouses.

CULEBRA, C. Z., December 4, 1909.

CIRCULAR NO. 296:

Effective January 1, 1910, the storehouses at present operated by the Atlantic Division at Gatun, Cristobal Drydock, and Porto Bello will be transferred to the Quartermaster's Department.

Prior to the date of the transfer an inventory will be taken by the Quartermaster's Department, with the assistance of employes of the Atlantic Division.

GEO. W. GOETHALS, *Chairman.*

Rules for Shop Employes.

CULEBRA, C. Z., November 30, 1909.

CIRCULAR NO. 262-A:

Paragraph 3 of Rules Governing Shop Employes of the Isthmian Canal Commission, issued as a part of Circular No. 262 and made effective on July 1, 1909, will be revised and replaced by the following, effective December 1, 1909:

3. Penalty for Failure to Properly Check In and Out.

Employes who fail to draw or deposit their own checks, as provided in Rule 2, will be disciplined as follows:

For the first offense—The discipline will consist of a warning letter.

For each subsequent offense—The employe will be suspended without pay for one day.

The calling for or depositing by one employe of the check of any other employe will be considered sufficient cause for dismissal.

All warning letters and suspensions will be made a matter of record. GEO. W. GOETHALS,
Chairman and Chief Engineer.

Metal Check Requisite for Pay.

CULEBRA, C. Z., December 1, 1909.

CIRCULAR NO. 294:

In order that every safeguard may be placed around the delivery and payment of pay certificates, the following instructions will in future be rigidly adhered to:

No timekeeper shall deliver pay certificate to an employe without first personally viewing the metal check of said employe, or, in lieu thereof, an identification certificate furnished under the regulations in case brass check has been lost and new one not yet furnished, and requiring the employe to announce his name in order that the timekeeper may check pay certificate as to brass check number and name as well.

The same instructions hold good in witnessing signatures to pay certificates.

No paymaster or pay clerk shall make payment upon any pay certificate without first viewing the brass check of the employe, or, in lieu thereof, receiving a proper certificate issued in accordance with the regulations now in existence, and thus assuring himself that the claimant has been identified as the employe in whose favor the certificate is drawn.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Operation of Hand Cars.

CULEBRA, C. Z., December 3, 1909

CIRCULAR NO. 295:

The following instructions issued May 18, 1908, are republished for the guidance of all employes of the Isthmian Canal Commission and Panama Railroad Company:

A large number of hand cars are being run on the main line of the Panama railroad, and it is feared that a collision with one of these cars will result in the derailment of a train, involving loss of life.

Except when absolutely required by the necessities of the work, no I. C. C. hand cars must be run on the tracks of the Panama railroad, and it will be the duty of foremen to see that the men under their charge obey this order. GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission,
President, Panama Railroad Company.

ISTHMIAN BASEBALL LEAGUE.

Results of games, December 5:

Ancon—Ancon, 9; Marines, 0—forfeited.

Empire—Gorgona, 5; Empire, 0.

STANDING OF CLUBS.

	Won	*Lost*	*P. C.*		*Won*	*Lost*	*P. C.*
Gorgona	2	0	1.000	Empire	0	1	.000
Ancon	1	0	1.000	Marines	0	2	.000

SCHEDULE FOR DECEMBER 12:

Marines at Ancon.
Empire at Gorgona.

The baseball season in the Isthmian League opened at Ancon and Empire on Sunday, December 5. At Ancon, the Marines left the field in the last half of the fifth inning, forfeiting the game to Ancon. At Empire, a fair-sized audience witnessed Gorgona defeat Empire. The score of the Gorgona-Empire game was as follows:

Gorgona.	AB.	R.	H.	PO.	A.	E.
Dougherty, 2b	5	0	1	3	1	0
Magee, lf	3	1	0	2	0	0
Barney, rf:	5	0	3	1	0	0
Wright, 1b	5	0	1	9	0	0
Herring, C., c	4	0	0	8	1	0
Clements, cf	4	1	0	1	0	1
Cole, ss	4	1	1	0	1	0
Emery, 3b	4	1	1	2	2	0
Case, p	4	1	0	1	5	0
Total	38	5	7	27	10	1
Empire.						
Bryan, 3b	4	0	2	4	0	1
Dixon, ss	4	0	0	1	2	1
Moore, c	3	0	0	5	3	0
Christopher, rf & p	4	0	1	2	4	0
Bell, 1b	3	0	1	10	1	0
McCullough, lf & cf	4	0	0	0	0	1
McAuley, 2b	4	0	0	4	3	1
Murphy, cf	2	0	1	1	0	1
Herring, G., lf	2	0	0	0	0	0
Willis, p	0	0	0	0	0	1
Marshall, p & rf	3	0	0	0	4	1
Total	33	0	5	27	17	7

Gorgona	1	4	0	0	0	0	0	0	0—5
Empire	0	0	0	0	0	0	0	0	0—0

Two base hits—Christopher and Barney. Bases on balls—Off Willis, 4; Marshall, 1. Left on bases—Empire, 6; Gorgona, 5. Struck out—By Case, 8; by Marshall, 3; by Christopher, 2. Hit by pitcher—Cole, McCullough. Umpire—Irwin. Time of game—2 hours and 15 minutes. Official scorer—Hayes.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending December 15, 1909 (75th meridan time):

DATE.	High.	Low.	High.	Low.
	A. M.	A. M.	P. M.	P. M.
Dec. 9	6.02	12.02	6.50	12.05
Dec. 10	6.54	12.40	7.40	1.00
Dec. 11	7.50	1.50	8.30	2.15
Dec. 12	8.37	2.55	9.35	3.20
Dec. 13	10.00	3.42	10.45	4.15
Dec. 14	11.40	5.00	11.38	5.05
	P. M.			
Dec. 15	12.35	6.06	....	6.07

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

The steamer *Ancon* will sail for New York on December 10.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

The basketball game between Cristobal and the local team last Saturday night, resulted in a score of 26 to 28 in favor of Cristobal. The line-up was as follows:

Culebra—Goodman, Kersey, Cusbing, Tupper and French. Cristobal—Strong, Luce, Ford, Simla and Herrington. Referee—G. R. D. Kramer; umpire—A. D. Moore.

The following is the standing in the chess tournament, including December 4:

	Won.	*Lost.*	*Draw.*
Stearns	4	1	0
Dubois	3	2	1
Warner	2	3	1
McCarney	0	3	0
Wilson	2	0	0
Herrington	2	4	0
Marshall	0	4	0

The camera club held a meeting on November 29, when the following officers were elected: President, C. D. Cook; vice-president, E. W. Palmer; recording secretary, G. R. D. Kramer; corresponding secretary C. F. Parks; treasurer, G. W. Ramsey. The first outing was taken December 5 and was a trip to Camacho. There is room for new members.

The high bowling score for the month of November was made by Edwards who rolled 224. Lamster was second with 220, and Case third with 206.

The male quartet went to Cristobal on the night of December 3 to assist in a smoker given by the Cristobal association.

EMPIRE.

The winter gymnasium classes began last week as announced. Systematic gymnasium exercises are the features of the classes, which will be held Monday and Thursday evenings at 8 o'clock. Piano accompaniments add to the pleasure of the exercises. Much interest is being manifested in gymnastic dancing.

The indoor baseball team will practice Wednesdays and Fridays. All members of the team are requested to be on hand promptly.

The pool tournament has closed, with G. C. McCullough as winner of the first prize, and B. L. Kelso, second.

The boys' duck pin bowling match on December 4, resulted as follows:

	First.	*Second.*	*Third.*	*Totals.*
S. D. Bs	334	333	319	1,086
B. Ps	254	315	298	867

A good-sized audience enjoyed the illustrated lecture entitled "Siouxland" by Mr. and Mrs. Edward H. Kemp, November 25.

GORGONA.

The entire building is being repainted, the color scheme being pea green and white. The activities, however, are not interfered with to any extent.

Mr. Chas. Angel, the clubhouse barber, has returned from the hospital and is again on duty.

The medals for the billiard, pool and bowling tournaments recently completed, have been received and are being distributed.

Mr. Harvey McConaughey has been appointed chairman of the committee on decorations for the Christmas festivities.

The second illustrated lecture, entitled "Siouxland," given last Tuesday night by Mr. and Mrs. E. H. Kemp, was thoroughly enjoyed.

The orchestra concert given in the game room on November 29, was well attended, and proved the best that the members have listened to in a long time.

The chess tournament continues to interest many of the members of the Association.

A "Rag-time" bowling tournament is in progress. Much interest is shown. Any member can enter at any time. See Mr. Otis for particulars.

CRISTOBAL.

The smoker given on Friday night, December 3, was one of the greatest successes of the season. About 300 men were present and thoroughly enjoyed the exceptionally good program which was rendered.

The indoor baseball game between the local team and the Gorgona team last Saturday night, resulted in a score of 36 to 6 in favor of Gorgona.

The I. C. C. band will give a concert at the club house on Wednesday night of this week.

The fencing class will begin on Wednesday night, December 8, with Mr. McSparren as instructor. Ten men have signed.

There will be a bowling match on Saturday night, December 11, with the Culebra team.

The position of traveling secretary of the Y. M. C. A. has been abolished.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning December 8:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	27
Chops	per lb	29
Cutlets	per lb	29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	4
Soup	per lb	6
Stew	per lb	10
Corned	per lb., 12, 14,	16
Chuck roast	per lb	14
Pot roast	per lb	16
Rib-roast, second cut (not under 3½ pounds)	per lb	19
Rib-roast, first cut (not under 3 pounds)	per lb	21
Sirloin roast	per lb	22
Rump roast	per lb	22
Porterhouse roast	per lb	22
Steak, Chuck	per lb	15
Round	per lb	16
Rib	per lb	21
Sirloin	per lb	22
Porterhouse	per lb	22
Rump	per lb	22
Tenderloin	per lb	27

MISCELLANEOUS.

Livers—Beef	per lb	11½
Calf	each	65
Sausage—Pork	per lb	17
Bologna	per lb	17
Frankfurter	per lb	17
Leberwurst	per lb	17
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	30
Oysters	keg	90
Eggs, fresh	dozen	†38

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, fatted	each	1.30
medium weight	each	90
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50

CURED AND PICKLED MEATS.

Hams, York Cut, Finnis and Fisher	per lb	30
Bacon—Breakfast, whole piece	per lb	27
Breakfast, sliced	per lb	29
Ham—Sugar-cured, sliced	per lb	§25
One-half, for boiling	per lb	§21
Westphalia	per lb	*36
Hocks	per lb	‡8
Sugar cured	per lb	20
Beef, salt, family	per lb	10
Pork, salt	per lb	15
Ham, boiled	per lb	28
Ox tongues	each	1.00
Pigs' feet	per lb	8
tongues	per lb	16

DAIRY PRODUCTS.

Butter—Prints, prime quality	per lb	†45
Cheese—Roquefort	per lb	45
Philadelphia Cream	cake	*10
Young America	per lb	22
Swiss	per lb	31
Edam	each	1.05
Camembert	per lb	28
Neufchatel	each	6
Gouda	per lb	34
Parmesan	bottle	20
French cheese in tins—Camembert, Brie, Neufchatel	1-lb tin	20
Milk, Briarcliff	bottle	**25
Butter	bottle	**15

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	*5
Lettuce	per lb	*10
Potatoes, white	per lb	3½
sweet	per lb	2½
Onions	per lb	3
Squash, Hubbard	per lb	5
Yams	per lb	3½
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	4
Cucumbers	per lb	†8
Lemons	dozen	24
Cabbage	per lb	*3
Apples	per lb	*5
Oranges	dozen	12
Grapefruit	each	4

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal and Colon during the week ending December 4, 1909, with supplies for the Isthmian Canal Commission:

Prinz August Wilhelm, November 29, from New York, with 1,268 bales of hay for corrals.

Ancon, November 30, from New York, with 12,004 barrels of cement for Atlantic Division; 47,984 bags of cement for Pacific Division; 208 tons of structural material for moveable towers, Gatun; 170 tons of iron work for Gatun locks; 37 tons of chain for stock; 144 tons of structural material for the handling plant, at Pedro Miguel and Miraflores Locks.

Tampican, November 30, from Liverpool, with 145 barrels of carbolic acid for the Sanitary Department.

Abangarez, December 2, from New Orleans, with 47,000 pounds of fire clay, 10,476 feet of white oak lumber, 128 pieces of switch ties, 16 crates of oars and 9 tons of wire rope clips for stock; 38,000 feet of white oak lumber for car repairs; 1,683 sacks of oats for corrals; 14 tons of castings for car repairs.

Colon, December 3, from New York, with 2,000 gallons of lubricating oil, 20 tons of bolts and nuts and 34 coils of manila rope for stock; 70 tons of structural material for Gatun, Pedro Miguel and Miraflores; 20 tons of steel bars and plates for stock; and a miscellaneous cargo consisting of 6,558 packages, weighing 375 tons.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., December 8, 1909.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Agrasal, Concepcion
Allot, Rev. Fr.
Baker, Mrs. Catherine
Barbarigo, Justin
Bowie, William R.
Burk, Jos.
Burns, Thomas (2d class)
Butler, Harry
Coyne, John
Cramer, Charles
Elmgren, Mrs. T. A. W.
Gray, Miss Helen
Hamilton, Mrs. Nellie
Hartley, Mrs. Bradfield
Harvey, Frank J.
Henderson, J. A.
Herman, Mrs. Albert O.
Higley, Charles
Howe, C. H. R. (2d class)
Hurey, Dave
Jamieson, David H. (2)
Jones, Mrs. Nona
Kenison, Mrs. N.
Langworth, John
Liemandt, Max.
Lumby, Rob.
Mehim, Capt. B.
Oman, R. W.
Prose, Miss Nellie
Tates, George
Thull, Peter J.
Twombly, F. M.
Upson, Mrs. U. L.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ended midnight Saturday, December 4, 1909.

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft..	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Nov. 28....	131.8	96.3	52.6	18.1	13.1	11.7
Monday, Nov. 29 ..	142.1	103.4	63.2	27.7	15.6	13.8
Tuesday, Nov. 30..	130.5	96.1	54.7	27.5	15 7	14.1
Wed'esday, Dec. 1.	129.8	95.6	51.6	19.5	14.8	13.2
Thursday, Dec. 2...	128.9	94.9	50.7	16.2	12.4	11.2
Friday, Dec. 3.....	128.6	94.6	50.4	13.5	9.6	8.6
Saturday, Dec. 4...	128.3	94.4	50.0	11.5	7.4	6.3

Launch Service to Taboga.

The steamer *Sanidad* leaves the dredge landing at Balboa at 9 o'clock Tuesday, Thursday and Saturday mornings. On the return trip it arrives at Balboa about 4.30 p. m. in time to make connections for the 5.30 train at Panama.

FOUND—Near hospital gate, Ancon, November 22, a small Elk's pin. Call at Division of Schools, Administration Building, Ancon.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO COLON.

Advance	P. R. R.	Thursday	Dec. 2
Prinz Joachim	H.-A.	Saturday	Dec. 4
Panama	P. R. R.	Thursday	Dec. 9
Oruba	R.-M.	Saturday	Dec. 11
Allianca	P. R. R.	Tuesday	Dec. 14
Prinz Aug. Wilhelm	H.-A.	Saturday	Dec. 18
Colon	P. R. R.	Tuesday	Dec. 21
Magdalena	R.-M.	Saturday	Dec. 25
Advance	P. R. R.	Monday	Dec. 27
Prinz Joachim	H.-A.	Saturday	Jan. 1
Clyde	R.-M.	Saturday	Jan. 8
Prinz Aug. Wilhelm	H.-A.	Saturday	Jan. 15
Thames	R.-M.	Saturday	Jan. 22

Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

COLON TO NEW YORK.

Colon	P. R. R.	Thursday	Dec. 9
Advance	P. R. R.	Tuesday	Dec. 14
Magdalena	R.-M.	Wednesday	Dec. 15
Panama	P. R. R.	Tuesday	Dec. 21
Prinz Joachim	H.-A.	Tuesday	Dec. 21
Allianca	P. R. R.	Sunday	Dec. 26
Clyde	R.-M.	Wednesday	Dec. 29
Colon	P. R. R.	Sunday	Jan. 2
Prinz Aug. Wilhelm	H.-A.	Tuesday	Jan. 4
Advance	P. R. R.	Saturday	Jan. 8
Thames	R.-M.	Wednesday	Jan. 12

A fortnightly service of the steamers Ancon and Cristobal will be maintained as nearly as possible but changes from the schedule may be found necessary. The following is the schedule:

NEW YORK TO CRISTOBAL.

Cristobal	P. R. R.	Wednesday	Dec. 8
Ancon	P. R. R.	Thursday	Dec. 23

CRISTOBAL TO NEW YORK.

Ancon	P. R. R.	Friday	Dec. 10
Cristobal	P. R. R.	Wednesday	Dec. 22

NEW ORLEANS TO COLON.

Atenas	U.F.C.	Saturday	Dec. 4
Turrialba	U.F.C.	Saturday	Dec. 11
Abangarez	U.F.C.	Saturday	Dec. 18
Atenas	U.F.C.	Saturday	Dec. 25

COLON TO NEW ORLEANS.

Atenas	U.F.C.	Tuesday	Dec. 14
Turrialba	U F.C.	Tuesday	Dec. 21
Abangarez	U.F.C.	Tuesday	Dec. 28
Atenas	U.F.C.	Tuesday	Jan. 4

COLON TO BARBADOS, CALLING AT TRINIDAD.

Oruba	R.-M.	Tuesday	Dec. 21

A ship of the United Fruit Company's line sails from the dock at Colon, at 3 p. m., Tuesday of each week.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Meltonian* for New Orleans, via Kingston, Ja., on or about December 14.

The steamers *David* of the National Navigation Company, and the *Taboga* of the Pacific Steam Navigation Company, leave Panama, for David, province of Chiriqui, and intermediate points, the first and third weeks of each month.

The following vessels arrived at or departed from the port of Balboa during the week ending December 4:

Arrivals—November 29, *Chiriqui*, from intermediate ports; *Guatemala*, from south ports, and U. S. S. *Buffalo*, from San Francisco; December 1, *Arica*, from Guayaquil, and *Pectan*, from Port Harford; December 3, *Manavi*, from intermediate ports.

Departures—November 27, *Quito*, for intermediate ports, and *Ecuador*, for Guayaquil; November 30, *Chile*, for south ports.

LOST—A combination coin and bill case on Panama railroad train leaving Panama at 4 p. m., November 28, 1909. Return to L. M. MacRae, Culebra, C. Z.

LOST—A knot brooch of rolled gold with pearl center, between the Hotel Tivoli and the Panama railroad station. Finder please return it to W. H. Bolen, House 57, Culebra, C. Z.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, DECEMBER 15, 1909. No. 16.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Building Gatun Locks.

All records for concrete laying in the locks of the Canal were broken at Gatun on December 10, when 1,866 cubic yards were placed. In addition to doing this work, the cableways over the locks assisted in moving parts of the forms and in lifting materials from the lock site to the banks. The record by days follows:

	Cubic Yards.
December 6	1,500
December 7	1,706
December 8	1,758
December 9	1,824
December 10	1,866
December 11	1,776
Total	10,430

The record up to the close of work on December 11 was as follows:

	Amount—Cu. yds.	Average per day—Cu. yds.
August (seven days)	1,298	185
September (26 days)	11,934	459
October (31 days)	29,378	948
November (24 days)	30,098	1,254
December 1 to 4	6,254	1,563
December 6 to 11	10,430	1,737
Total	89,392	912

Concrete Work at Pedro Miguel.

There was a slight falling off in the amount of concrete laid at the Pedro Miguel Locks for the week ending Saturday, December 11, due largely to a breakdown of one of the stationary concrete mixers, which was out of service until new parts could be obtained from Gorgona shops. The record for the six working days follows:

	Cubic Yards.
December 6	455
December 7	465
December 8	440
December 9	423½
December 10	502½
December 11	466½
Total	2,752½

The amount of concrete placed in the locks from the beginning of work on September 1, to December 11, inclusive, is as follows:

	Cubic Yards.
September	2,369½
October	8,396¼
November	10,080½
December 1 to 11, inclusive	4,863½
Total	25,709¾

The Work at Santa Cruz.

Preparations to resume work at Point One, Santa Cruz, where a cut is being made across a peninsula formed by the Chagres River between Matachin and Bas Obispo, are in progress. After the high water in the river on June 14–15, 1909, the work was suspended, as the excavation is principally in earth, the rock having been removed, and it was evident that considerable effort would be necessary to keep the cut dry during the rainy season. During the flood of November 17–20 the river flowed through the partly completed cut and washed away part of the barrier at the south end and about half of the dike at the north end, wrecking the pumping plant. The dikes will be restored, and the pumping plant put in condition again, so that work may be resumed at the beginning of the dry season. There are two pumps from the old French stock, one centrifugal and one duplex, and steam will be furnished from an old French locomotive. Three shovels will be set at this work, and it is expected that they will complete the excavation by the beginning of the next rainy season.

Increased Demand for Sand.

The demands on the Pacific Division sand service continue to increase, and the December output at Point Chamé will greatly exceed that of any previous month. The Atlantic Division has called for a daily shipment of 1,000 cubic yards of sand, equivalent to about forty carloads, for use at Gatun Locks; the concrete mixers at Pedro Miguel Locks must be kept supplied, and there are numerous orders from other sources. The shipments for a single day, Saturday, December 11, were as follows: Nine hundred cubic yards to Gatun; 240 cubic yards to Pedro Miguel, and 125 cubic yards to the Panama railroad, a total of 1,265 cubic yards.

Dredging operations at Point Chamé and the barge service from there to the Balboa sand dock are working smoothly, and no difficulty has arisen in connection with the increased demand, with the exception of a shortage of cars. Within the past few days more cars have been assigned to this service, so that the shipments can proceed without interruption. The unloading at Balboa dock has been done so far by one locomotive crane operating a clam-shell bucket working day and night in three shifts. One of the three unloading cranes of the permanent plant, will, it is expected, be ready for use by Wednesday, December 15. It will be operated by electricity from the Miraflores power plant, and the substation electrical equipment for this purpose, located near the Balboa dock, was practically in place at the end of last week.

Additional Quarters at Gatun.

Authority has been granted for the construction at Gatun of one type-18 and six type-14 quarters. The type-18 house is a two-story, 24-room building for bachelors, and the type-14 quarters are two-story, four-family houses. The work on the type-18 building will be begun as soon as possible.

Panama Sanitary Improvements.

The construction of a sewer system in connection with the sanitary improvements in the district of Guachapali, Marañon, Santa Cruz and Trujillo was begun on Monday, December 6, by the municipal engineering forces of the Pacific Division. The first work will consist of the construction of a 10-inch outfall sewer that will extend from near the Caledonia street viaduct, along the Calle de la República, through Guachapali and Marañon, to a point where it will connect with the 15-inch outfall sewer now extending along the beach from the eastern section of the city of Panama. Most of the pipe is on the ground, and the work will be prosecuted vigorously.

Up to December 1, the Health Office in Panama had issued a total of 69 building permits on Panama railroad lands in the district of Guachapali, 11 in Santa Cruz, and one in Trujillo. The demolition of the old shacks in these districts continues.

Gatun Water Works.

The excessive rains of the past month considerably retarded the work on the Agua Clara dam and reservoir, which is to furnish the American and native settlements at Gatun with an improved water service. Much of the rock and earth used in the construction of the dam has been obtained from Mindi, but when the pit at that point filled with water during the recent flood, the supply was cut off, and progress on the fill has since been depending largely on spoil hauled from the Gatun lock site. As most of the earth on the site of the dam is red clay, it has been impossible to work the men and teams on wet days, thereby causing numerous delays.

The outward toe of the dam has been built to within fifteen feet of its final height, a considerable section of the impervious red clay core has been placed, and the concrete gate chamber is practically completed. The watershed has been cleared of all habitations, but a good deal of stripping remains to be done on the reservoir area, which extends back into the hills for about two miles. Three creeks converge at the reservoir, and at one time during the recent heavy rains, the water rose to a height of 22 feet, the

NOTES OF PROGRESS.

(Continued.)

flow escaping through a concrete sluiceway beneath the dam.

The installation of the water system in the native settlement has been completed. An 8-inch pipe connects with the 12-inch main from the reservoir and extends through the more thickly settled portion of the place, while the outlying districts will be supplied from 6 and 4-inch pipes. In all, about 9,000 feet of pipe have been laid in the native town.

Small Slide in Culebra Cut.

While shovel No. 111 was at work on the afternoon of December 9, excavating on the 95-foot bench for the Panama railroad on the west side of Culebra Cut opposite Las Cascadas, a quantity of rock and earth, estimated at 20,000 cubic yards, moved toward it. An effort was made to withdraw the shovel, but it was caught by the moving mass. The damage was slight and the shovel will be ready to resume work this week. No effort will be made to continue excavation on this bench for the present. A shovel will be cut in farther toward the center line and when it gets to a point opposite the slide the material will be taken out.

Excavation at Gorgona.

The two steam shovels excavating in the Canal prism at Point Three, opposite Gorgona, are on their last cut on the 50-foot level, at which elevation they have been since July, when the work was begun. Low water in the river at this point is about 39 feet above sea level. As the Canal is to be excavated to 40 feet above sea level work on the lower levels would be constantly subjected to inundation during the rainy season and for this reason the shovels were not allowed to dig below the 50-foot elevation. Even at that elevation there have been several freshets in the Chagres since the work was begun that have put the shovels out of service. As soon as the dry season sets in the shovels will begin to make cuts down to the 40-foot elevation. This piece of work was estimated as containing over 850,000 cubic yards of material, and of this amount there remain to be taken out during the dry months 400,000 cubic yards.

Ten-Yard Dipper Dredge.

Requisition has been made for a 10-yard dipper dredge, to be used by the Pacific Division in excavating in the prism of the Canal at the Pacific entrance. The dredge will dig between the depths of 30 and 50 feet, and will supplement the work now being done by the dipper and ladder dredges of the Pacific fleet. The specifications call for a hull 135 feet long, 43 feet beam, 14 feet deep at the bow, and 12 feet deep at the stern; fitted with all machinery, electric light plant, storage for 4,000 barrels of fuel oil, and bunkers for 100 tons of coal. It must be able to operate a 10-yard bucket in stiff mud or clay at a depth of 50 feet, but it will also be supplied with 6-yard buckets for use in digging rock.

The equipment will include compound engines, Scotch marine boilers, hoisting drum and gears, machinery for backing and swinging to be operated by independent double engines with link motion, two forward spuds and one rear spud to be operated by independent winches and engines, "A" frame and boom of structural steel, and dipper handle of white oak covered and strengthened by steel plate. The dipper will be dumped by a special device run by compressed air, and for this purpose an air compressor will form part of the equipment. There will also be scow moving machinery driven by independent double engines. The dredge will be delivered knocked down on the Isthmus and constructed at the Balboa shipways.

Contract Buildings.

The contract for constructing the commissary and the recreation hall at Porto Bello has been let to Herman Bolton. The contract for the construction of a type-27 house at Agua Clara reservoir near Gatun has been let to James A. Wilson.

Rainfall and Freshets.

A series of four rises in the Chagres River occurred between December 8 and December 13. The rise of the 12th was the greatest and its principal record at the several stations was:

STATION.	BEGINNING.			CREST.		
	Date.	Time.	Elevation above sea level.	Date.	Time.	Elevation of water above sea level.
			Feet.			*Feet.*
Vigia	12	1 30 a. m.	134.9	12	1 p. m.	150.5
Alhajuela	12	2.30 a. m.	99.6	12	2 p. m.	109.3
Gamboa	12	6.00 p. m.	57.9	12	7 p. m.	67.2
Frijoles	12	3.00 p. m.	34.7	13	3 a. m.	37.2
Bohio	12	4 00 p. m.	29.1	13	4 a. m.	30.8
Gatun	9	8.00 p. m.	9.7	13	4 p. m.	17.6

The beginning as given for Gatun is the beginning of the first rise. The freshet was dissimilar to the one which occurred from November 11 to 27, in that its origin was due almost entirely to conditions in the valley above Vigia, comparatively little rain falling in the lower valley. Comparison with the freshet of November, 1909, shows the following maximum heights:

STATION.	November 11-27 —Height above sea level.	December 8 to 13 —Height above sea level.
	Feet.	*Feet.*
Vigia	154.4	153.2
Alhajuela	111.4	110.6
Gamboa	72.6	67.9
Frijoles	43.9	37.2
Bohio	37.2	30.8
Gatun	21.5	17.6

From this it appears that in the upper valley flood conditions were almost as excessive as during November.

The stages of the Chagres River during the week ending December 11 are shown in the following table:

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft.	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Dec. 5	128.1	94.3	49.8	10.5	6.2	5.3
Monday, Dec. 6	132.3	95.7	51.0	11.9	6.5	5.5
Tuesday, Dec. 7	141.2	102.9	56.5	18.6	9 5	7.9
Wed'esday, Dec. 8	134.4	102.9	59.1	22.1	11.5	10.0
Thursday, Dec. 9	140.7	98.4	53.3	16.3	11.1	10.0
Friday, Dec. 10	146.4	106.1	63.0	24.0	12.1	10.8
Saturday, Dec. 11	153.2	110.6	67.9	30.0	14.8	13.4

The rainfall for the week ending December 11, midnight to midnight of each day, was as follows:

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Division—	*Ins.*		*Ins.*
Cristobal	3 56	6	15.32
Brazos Brook	4.70	6	12.37
Gatun	4.16	6	12.39
Central Division—			
Bohio	1.26	10	7.18
Tabernilla	.65	6	2.99
San Pablo	.52	6	2.74
Gorgona	1.08	10	3.47
Gamboa	.94	9	2.99
Empire	.63	6	2.40
Camacho	.65	11	2.32
Culebra	71	6	3.20
Pacific Division—			
Rio Grande	.97	6	3 67
Pedro Miguel	.74	6	2.99
Miraflores	.77	11	2.49
Balboa	2.07	9	3.56
Ancon	2.15	9	4.27
Atlantic Coast—			
Porto Bello (to 5 p. m. Dec. 11)	7.13	7	21.67
Nombre de Dios	.. ..	....	......
Upper Chagres—			
El Vigia	2.63	9	4.37
Alhajuela	1.03	10	4.12

Deportation of Labor Recruiter.

In accordance with a decree issued by the President of the Republic of Panama, under date of December 2, 1909, W. P. Spiller, a citizen of the United States and for some time past a resident of Colon, was deported from the Republic on the Royal Mail steamship *Magdalena*. which left Colon on December 14. The decree states:

> WHEREAS, Pursuant to the Treaty made between the United States and the Republic of Panama, it is therein clearly manifested and made known that the main object for such a treaty is the desire to assure the construction of a ship canal across the Isthmus of Panama; and,
>
> WHEREAS. It is known to this Government by official letter received from the Department of Government of the Canal Zone, that one named W. P. Spiller, who resides in the city of Colon, does harm to the enterprise by recruiting laborers who are working on the Canal in the cities of Panama and Colon, for the purpose of shipping these laborers to work for some other company or enterprise in a forign country; now, therefore, be it decreed:
>
> Section 1. To deport Mr. W. P. Spiller, a resident of the city of Colon from the Panaman territory, to which effect he shall be put on board the first steamer leaving for the United States.

Ancon Quarry.

The work of removing the loose material that became involved in the slide at Ancon quarry on October 21 continues. As soon as the ground is sufficiently cleared a crib of piles will be constructed to prevent further sliding at this point. The remaining wing of the retaining wall has been securely anchored, and the section affected by the slide will be heavily buttressed. Work is in progress on the timber superstructure, sheathed with galvanized iron, that is designed to protect the rock crushing machinery, all of which is in place, with the exception of the electric motors. The damage caused by the slide, including the demolition of the belt conveyor shed, will probably be repaired by January 1. The work of stripping on the west and south sides of the hill has continued uninterruptedly, and a large area of rock surface has been exposed.

The contractors, to whom the excavation of several small pieces of earth and rock in the Canal prism between Bohio and Barbacoas Bridge was awarded, have begun the work of clearing near Bohio.

A SHIPLOAD OF DYNAMITE.

Steamer "Phyllis" Brings Over 500 Tons to the Isthmus—Handling and Distribution.

The steamer *Phyllis*, which arrived from Baltimore on November 27, brought 1,032,000 pounds of dynamite to the Isthmus for the Canal work. The explosive was in 20,640 cases of 50 pounds to a case, and it was unloaded at Dock 14 in Cristobal by hand, as all explosives brought to the Isthmus are.

Each box was picked from the hold by a man who passed it up on deck to another man, who in turn passed it up to a third, by whom it was set on a long skid and allowed to slide toward the dock. Just before it reached the wharf each box was caught by a man who carried it to a point on the dock, whence it was carried into the box cars lined up on the siding. A portion of the dynamite, about 60,000 pounds, was put on a lighter and taken to Porto Bello for use in the quarry at that point. The remainder made 17 car loads, 486 tons in all. The unloading is done, as is the rule, under the supervision of the supervisor of explosives, an official detailed to this work because of his knowledge of dynamite and his care in handling it. The train of 17 cars which started from the Mount Hope yard about 9 o'clock on the morning following the unloading was also under his direction.

Unlike the construction trains that run within sight of one another, the dynamite train entered no block on the railway that was not free of trains, and while it was in a block no other train was allowed to enter. Four cars were shunted to the siding at Mindi, to be taken by the Atlantic Division to its storage magazine back of the Mindi Hills, and the remaining 13 cars were hauled to the Central Division. The itinerary was so planned that the train of explosives entered Culebra Cut at noon, and threading its way slowly over the construction tracks crossed the bottom of the Cut and climbed up to the line along the east bank. Four cars were left at two of the service magazines along the Cut between Empire and Bas Obispo, and the remaining nine cars were delivered at the storage magazine at Cruces. No deliveries were made to the Pacific Division, as very little blasting is being done there at present and the stock on hand is sufficient.

Money Sent Home.

The amount of money paid to Canal workers in the month of October was $1,578,859.04, and $755,034.84 was paid to "gold" employes, practically all of whom are citizens of the United States. The Canal Zone post-offices issued $442,296.91 in money orders in the month of November, and of this amount $344,723.61 was payable in the United States, $373.50 in Martinique, and the remainder in the Canal Zone. The orders payable in the United States include all those sent to the British West Indies by the laborers from those islands, as well as those that are actually destined for the United States. The orders sent to the West Indies are audited in Washington in order to save the expense of a separate auditing force in the Canal Zone. On this account figures are not available showing the amount actually payable in the United States, but the proportion as ascertained from reports for past quarters was about three-fourths.

Money sent to Spain and Italy by the laborers from those countries, of whom there are about five thousand on the Canal work, is transmitted in the form of drafts. There are banks in Panama, Empire, and Colon, with connections in the United States, that handle a large amount of drafts and checks payable in the United States. Thus, although the post-office money orders issued in November for payment outside the Canal Zone represent nearly 25 per cent of the total amount of money paid in the month of November, they form only a portion of the total amount of money sent by Canal workers to their home countries.

In his address at the opening of the House of Assembly of Barbados, on November 23, Governor Carter of that colony said:*** "A sum amounting to 63,210 pounds sterling has been sent back from Panama in money orders by the Barbadians employed on the Canal works, and 21,864 pounds sterling have been brought home by returning emigrants." These two sums equal about $425,000.

Postage for The Canal Record.

The Director of Posts advises that a number of cases have come to his attention of employes and others mailing THE CANAL RECORD to their friends or relatives in the States under cover of the official penalty envelope. He desires to inform such persons that THE CANAL RECORD is personal correspondence of the sender and, as such, cannot be mailed under cover of an official penalty envelope. Anyone misusing the penalty envelope in this manner is liable to a fine of $300.

The regular rate of postage on copies of THE CANAL RECORD sent to the United States, or any part of the Canal Zone, or Panama, is one cent, when the wrapper is open at both ends, and two cents when the wrapper is entirely sealed.

Obituary.

Lester Allgood Cook, a private in the United States Marine Corps at Camp Elliott, was drowned about 6 p.m., Sunday, December 12, while attempting to ford the Mandinga River at its junction with the Bas Obispo River. The body was recovered about an hour later and will be shipped to the States on December 21. He was born January 18, 1885, at Lyle, Chattooga County, Georgia, enlisted at Atlanta, and arrived on the Isthmus, December 13, 1906. His mother, Mrs. Eulla I. Cook of 18 Wabash Street, Pell City, Alabama, survives him.

Missing Men.

Information is requested as to the whereabouts of Stephen H. Haynes Davis, or Stephen H. Haynes, who is believed to be on the Isthmus. Address communications to Tom M. Cooke, Director of Posts.

The American Consul General in Panama would like information as to the whereabouts of Ray V. Stout of Kansas, who is supposed to be somewhere on the Isthmus.

Knights of Columbus.

Panama Council, No. 1371, of the Knights of Columbus will exemplify the First Degree in the I. C. C. lodge hall at Ancon on Sunday, December 19, at 1 p. m. Please be present.

JOHN A. DALEY,
Financial Secretary.

Corozal, C. Z., December 13, 1909.

DREDGING IN NOVEMBER.

Work at Atlantic and Pacific Entrances and on Gatun Dam.

The combined output of the dredges of the Atlantic and Pacific Divisions for November amounted to 1,456,730 cubic yards, as compared with 1,542,184 cubic yards for October, a decrease of 85,454 cubic yards. There was an increase, however, in the November excavation from the Canal prism, a total of 1,085,680 cubic yards having been taken out, as compared with 935,698 cubic yards for the preceding month, a gain of 149,982 cubic yards. Outside yardage aggregated only 371,050 cubic yards, as against 606,486 cubic yards for October. In the Atlantic Division, 457,889 cubic yards were removed from the prism, and 343,713 cubic yards from outside works. In the Pacific Division, 627,791 cubic yards belonged to Canal excavation, while 27,337 cubic yards represented outside operations. The dredging output in the Atlantic Division was 13,342 cubic yards more, and in the Pacific Division 98,796 cubic yards less, than in October.

The dredges in the harbor and channel section of the Atlantic Division removed 491,395 cubic yards, of which 439,168 cubic yards were earth, and 52,227 cubic yards were rock. The operations of the suction dredge *Caribbean*, for the first time in several months, were wholly confined to the Canal prism, and its output amounted to 334,650 cubic yards of earth. Dredge *No. 1* removed 17,307 cubic yards of earth and 16 036 cubic yards of rock, while Dredge *No. 5* took out 44,281 cubic yards of earth and 32,341 cubic yards of rock, all within the channel. Dredge *No. 6* was out of commission during the months of October and November undergoing a general overhauling. The dipper dredge *Mindi* removed 13,274 cubic yards of earth from the channel, and in addition, excavated 29,656 cubic yards of earth and 3,850 cubic yards of rock from in front of Pier 11.

The positions of Dredges *No. 82*, *No. 83*, and *No. 85*, at work in the Gatun section, were relatively the same as in October, and all three were engaged on the hydraulic fill of Gatun Dam. Their combined output for the month was 310,207 cubic yards. At the end of October the hydraulic fill in the dam had been increased to 1,916,819 cubic yards.

The tabular statement of operations in the Atlantic Division follows:

DREDGE.	Type.	Cu. Yds.
Caribbean	Suction	334,650
No. 1	Ladder	33,343
No. 5	Ladder	76,622
Mindi	Dipper	46,780
No. 82	Suction	126,954
No. 83	Suction	95,384
No. 85	Suction	87,869
Total		801,602

In the Pacific Division, the suction dredge *Culebra* excavated 329,843 cubic yards of material from the Canal channel between a point opposite the shipways and the end of the cut. It also took out 5,000 cubic yards of earth from in front of the new sand dock. The dredge *Marmot* was engaged from the 1st to the 29th of the month on the west side of the Canal between Station 2119 plus 25 feet and Station 2114 plus 50 feet. On the latter date it was moved back to Station 2120 to remove a fill caused by the flood. The *Cardenas* worked from the 1st to the 20th between Station 2211 plus 50 feet and Station 2203 removing lumps from the center of the channel. During the balance of the month it was engaged in excavating around a sunken ladder dredge in front of the Panama railroad wharf. The *Mole* worked from the 1st to the 14th cleaning off a rock shoal on the west side of the Canal from Station 2220 plus 50 feet to Station 2214, and from the 14th until the 18th it was engaged on another rock shoal at Station 2285. From this time until the end of the month the dredge worked on the west side of the Canal from Station 2230 to Station 2228 plus 50 feet. The *Badger* was employed the entire month in excavating on the east side of the channel from Station 2161 plus 75 feet to Station 2158 plus 50 feet. The *Gopher* remained at Point Chamé the whole of November and dredged approximately 13,500 cubic yards of sand. The suction dredge *Sandpiper* working south of the Miraflores lock site pumped 7,953 cubic yards of its total output of 8,837 cubic yards into the core of the west dam. The work of dismantling the dredge preparatory to transferring it to Gatun was begun shortly after December 1.

The tabular statement of operations in the Pacific Division follows:

DREDGE.	Type.	Cu. Yds.
Culebra	Suction	334,843
Mole	Ladder	66,719
Badger	Ladder	84,862
Cardenas	Dipper	45,498
Marmot	Ladder	100,869
Gopher	Ladder	13,500
Sandpiper	Suction	8,837
Total		655,128

Life Insurance in the Canal Zone.

The Executive Order of March 15, 1907 prescribing the conditions under which life, fire, and other indemnity insurance companies may transact business in the Canal Zone, requires that an agent on whom process may be served shall live in the Canal Zone; that a deposit of $10 shall be made with the Collector of Revenues which shall be available to satisfy any judgment that may be rendered against the company, and that certain reports shall be filed annually with the Collector of Revenues showing the condition of the company. The first license to write life insurance policies was issued under the provisions of this law on November 30, 1909.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Porto Bello on Sunday, December 19, 1909, at 2 p. m. The program follows:

1 March—*Col. Esley*..........Bagley
2 Selection—*The Midnight Sons*..........Hubbell
3 { a An Insect Episode—*In Bugdom*..........Eno
  { b A Rag Novellette—*Dope*..........Powell
4 Morceau Elegante—*Golden Blonde*.....Eilenberg
5 Overture—*Fest*..........Latann
6 Serenade—*La Paloma*..........Xradier
7 Medley Selection—*The Sunny South*.......Lampe
Introducing "Swanee River," "Listen to the Mocking Bird," "My Old Kentucky Home," "Arkansas Traveler," "Massa's in the Cold, Cold Ground," "Zip Coon," "Old Black Joe," and "Dixie."
8 Descriptive—*Battle of San Juan Hill*.......Sweet
Synopsis—The sleeping camp. Dawn appears. A cock crows and birds sing. Reveille is heard and the camp is soon in motion. Assembly call. The infantry fall in line of battle and march to scene of action. Adjutant's call. The cavalry approaches. Battle prayer. The battle is on. Grand melée of infantry, cavalry and artillery. Triumph of the American arms. The Star Spangled Banner. Finale.
9 Selection—*Maritana*..........Wallace
10 Galop—*The Races*..........Barnard

CHAS. E. JENNINGS, *Musical Director*.

A concert will be given at Gatun, on Sunday, December 26.

FRENCH EXCAVATION.

Special Committee Estimate It at 78,146,960 Cubic Yards—Amount Useful to Present Canal About 30,000,000 Cubic Yards.

The following report has been approved by the Chairman and Chief Engineer, and the figures of French excavation contained therein have been adopted and will be used hereafter as official figures on this subject by the Isthmian Canal Commission:

CULEBRA, C. Z., December 6, 1909.

LIEUT.-COL. GEO. W. GOETHALS, U. S. A.,
Chairman and Chief Engineer, Culebra, C. Z.

Sir—The Special Committee appointed to determine the volume of excavation accomplished by the French, as well as the volume of said excavation that is useful to the present project, have the honor to report:

In the letter of the Acting Chairman and Chief Engineer dated October 16, 1909, appointing the Committee, and in that of the Chairman and Chief Engineer of the 1st ultimo, the Committee were directed:

To compile from the most authentic records available, the total excavation accomplished by the French, and if possible to determine the quantities between mile and kilometer points.

If possible, to determine the volume of "wet" and "dry" excavation, respectively, performed by the French, the volume pertaining to each of the present Atlantic, Central and Pacific Divisions; and the volume pertaining to the Culebra section.

The Committee have not been able to separate the French excavation into "wet" and "dry," or to divide the same upon the basis of the limits of the present divisions, for the reason that the contracts (140 odd in number) overlap each other, the geographical limits of the French divisions and sections were different from ours, and no separation between "wet" and "dry" is made in the French records that are available.

It is, however, possible to make a geographical separation, approximately correct, at Bohio, Matachin and Paraiso.

A table has been prepared, showing the volume divided geographically on this basis, which follows:

EXCAVATION ACCOMPLISHED BY THE FRENCH—OLD COMPANY.

	Colon to Bohio.	Bohio to Matachin.	Matachin to Paraiso.	Paraiso to S. end.	Total.
	C. M.	*C. M.*	*C. M.*	*C. M.*	*C. M.*
Locks	82,665	200,101	319,478	240,761	843,005
Canal	14,058,591	5,545,439	12,884,191	7,339,577	39,827,798
Diversions	6,378,754	1,969,537	575,119	101,231	9,024,641
Accessories	780,726	76,216	168,716	309,979	1,335,637
Total	21,300,736	7,791,293	13,947,504	7,991,548	51,031,081

Which rendered in cubic yards at 1.3079 c. y. per c. m. is

	C. Y.	*C. Y.*	*C. Y.*	*C. Y.*	*C. Y.*
Locks	108,118	261,712	417,845	314,891	1,102,566
Canal	18,387,231	7,252,880	16,851,233	9,599,433	52,090,777
Diversions	8,342,772	2,575,957	752,198	132,400	11,803,328
Accessories	1,021,112	99,683	220,664	405,422	1,746,880
Total	27,859,233	10,190,232	18,241,940	10,452,146	66,743,551

Add the excavation accomplished by the New Company

	C. M.	*C. M.*	*C. M.*	*C. M.*	*C. M.*
New Company			6,967,761	1,751,108	8,718,869
Grand total	21,300,736	7,791,293	20,915,265	9,742,656	59,749,950

Which reduced to cubic yards is

	C. Y.	*C. Y.*	*C. Y.*	*C. Y.*	*C. Y.*
New Company			9,113,135	2,290,274	11,403,409
Grand total	27,859,233	10,190,232	27,355,075	12,742,420	78,146,960

The volume accomplished by the old company, has been compiled, so far as contract work is concerned, in accordance with the report of the Liquidator, to the Civil Tribunal of the Department of the Seine, in 1890, which report was made after settlements had been made of the contracts in operation when the suspension occurred.

The excavation accomplished under the Courveux and Hersent régime, which was performed upon "force account," is the volume moved previous to February 1, 1883, as given in the *Bulletin du Canal*, 390,000 cubic meters.

We know that the Courveux and Hersent agreement ceased, and that the contract system began on or about February 1, 1883, so that the above mentioned volume is probably nearly, if not quite, correct.

This volume pertained to the borrow-pit at Monkey Hill, the dredging in Folk River, and the canal work at Obispo and Empire, and in making up the table, has been distributed among the geographical divisions accordingly.

The total volume includes excavation from the canal prism, diversions, and accessories, such as excavation for filling town sites as at Cristobal and La Boca (now Balboa), and diversion of Panama railroad.

The volume removed by the new company has been compiled from monthly reports, by Mr. A. Raggi, Assistant Engineer, I. C. C., who had charge of the work in Culebra Cut for the new company.

It is the judgment of the Committee, after careful consideration of all obtainable data, that the grand total of 78,146,960 cubic yards shown in the table is as accurate an estimate of the volume of French excavation as can be made, and the Committee recommend that this figure be adopted as the Commission's final official estimate.

Of the 27 and odd million cubic yards taken out between Colon and Bohio, over 22,000,000 were "wet," but how much over cannot be determined.

Between Bohio and the end of the Canal in the Pacific, a separation between "wet" and "dry" cannot be made. We only know that some dredging was done between Bohio and Matachin, a small amount between Matachin and Paraiso, and a larger amount between Paraiso and the Pacific end.

Estimates of the amount of French excavation which is useful to the present project have been made by the Committee in each division, and these aggregate for the entire Canal 29,908,000 cubic yards.

The quantities have been obtained by computing the volume of the French excavation within the limits of the present Canal prism as shown by our cross-sections, deducting therefrom the volume of French spoil banks which the I. C. C. has found necessary to rehandle, of which there were 372,000 cubic yards in the Central Division, and 157,000 cubic yards excavated by the French under the site of the Gatun Dam which had to be replaced, and allowing for excavation outside of the Canal prism, useful as accessory to the present project, such as filling at Cristobal and La Boca (now Balboa), and the Panama railroad diversion between Culebra and Pedro Miguel.

In cases where the French records furnish the information, the volumes for these accessory items have been taken therefrom; otherwise, they have been computed. The amount of useful excavation in each division is shown in the following table:

USEFUL EXCAVATION.

ATLANTIC DIVISION.

	C. Y.	C. Y.
In the prism of the American Canal		
M-5.26 to 5.64; K-4.7 to 5.2	152,000	
M-6.19 to 6.47; K-5.8 to 6.6	30,000	
		182,000
Cristobal harbor		345,000
West Diversion at Gatun, useful as temporary diversion channel for Chagres River		350,000
Opposite M-2.68 to opposite M-5.0; K-0.0 to 4.0 French canal	1,224,000	
Opposite M-5.0 to opposite M-6.0; K-4.0 to 5.0 French canal	390,000	
Opposite M-6.0 to opposite M-7.0; K-5.6 to 7.2 French canal	561,000	
Opposite M-7.0 to opposite M-7.67; K-7.2 to 8.5 French canal	413,000	
Opposite M-6.2 to opposite M-6.38; K-5.67 to 5.96 East Diversion	55,000	
Opposite M-6.38 to opposite M-7.0; K-6.2 to 7.2 East Diversion	133,000	
Opposite M-7.0 to opposite M-7.19; K-7.2 to 7.5 East Diversion	28,000	
Excavation, place measure, to make land at Cristobal	714,000	
Excavation at drydock	31,000	
		3,549,000
Total		4,426,000
Less, replaced under Gatun Dam		157,000
		4,269,000

Of which it is estimated that 3,524,000 cubic yards were wet excavation and 745,000 cubic yards were dry excavation.

CENTRAL DIVISION.

From Gatun Dam to M-27.4; K-39.75	42,000
From M-27.4 to Chagres River at Obispo, K-45	2,159,000
Total, Chagres Section	2,201,000
From Chagres River at Obispo to Pedro Miguel, K-58.5, being the Culebra Section. Total, Culebra Section	18,646,000
Total, Central Division	20,847,000

PACIFIC DIVISION.

M-39 to M-41; K-58.5 to 60.1	1,394,000
M-43 to M-44; K-64.9 to 65.6	226,000
M-44 to M-45; K-65.6 to 67.2	947,000
M-45 to M-46; K-67.2 to 68.8	1,408,000
M-46 to M-47; K-68.8 to 69.8	666,000
Balboa (La Boca) to make land	151,000
Total	4,792,000

Of which it is estimated that 3,246,000 cubic yards were wet excavation, and 1,546,000 cubic yards were dry excavation.

Condensed, the statement shows as follows:

	Atlantic Division.	Central Division.			Pacific Division.	Grand Total.
		Chagres Section.	Culebra Section.	Total.		
	C. Y.	C. Y.	C. Y.	C. Y.	C. Y.	C. Y.
Canal Prism	182,000	2,201,000	17,399,000	19,600,000	4,641,000	24,423,000
Cristobal Harbor	345,000					345,000
Diversions	350,000		1,065,000	1,065,000		1,415,000
Accessories	3,392,000		182,000	182,000	151,000	3,725,000
Total	4,269,000	2,201,000	18,646,000	20,847,000	4,792,000	29,908,000

Respectfully,

JOSEPH BUCKLIN BISHOP,
Chairman.
EDGAR JADWIN,
A. S. ZINN,
W. G. COMBER,
A. B. NICHOLS,
A. RAGGI.

Isthmian Canal Medal Association.

All those interested in forming an association of employes of the Isthmian Canal Commission, who have earned a two years' service medal, are invited to meet at the Ancon lodge hall on Sunday, December 19, 1909, at 4.30 p. m., to organize such an association.

E. H. J. GOLDSMITH, A. E. CORNWELL, J. J. REIDY.

Steam Shovel and Dredgemen.

Local No. 19, International Brotherhood of Steam Shovel and Dredgemen will hold their regular monthly meeting on Sunday, December 19, in the I. C. C. lodge hall at Empire.

S. I. LYONS,
Secretary and Treasurer.

Empire, December 11, 1909.

STEAM SHOVEL RECORDS.

Work in November in the Central Division—Monthly and Daily Records.

During the month of November the total amount of material excavated in the Central Division was 1,164,411 cubic yards, of which 196,165 cubic yards were classified as earth and 968,246 cubic yards as rock. Of this quantity, 1,163,700 cubic yards were removed by steam shovels and 711 cubic yards by hand, all of which was taken from the Canal prism.

The high record for the month was made by shovel No. 227 working 11 days in the Culebra District, and 13 days in the Empire District, which excavated 44,858 cubic yards of rock, 19,900 cubic yards in the Culebra District, and 24,958 cubic yards in the Empire District. The second best record of the month was made by shovel No. 205 working 16 days in the Culebra District and eight days in the Empire District, which excavated 42,193 cubic yards of rock, 15,166 cubic yards in the Culebra District, and 27,027 cubic yards in the Empire District.

The best record for a shovel in the 70-ton class was made by shovel No. 124 working in the Culebra District, which excavated 16,549 cubic yards of rock and earth in 18 working days.

Shovel No. 227 in the Culebra District, made the high record for one day by excavating 2,850 cubic yards of rock and earth on November 10.

Shovel No. 122 working in the Bas Obispo District excavated 1,600 cubic yards of earth on November 5, and again on November 9, this being the high record for one day for a 70-ton shovel during the month.

Monthly records are computed by place measurement, while the daily records are based on car measurement. The best records for the month and for one day in each district are shown below:

TABERNILLA DISTRICT.

Shovel No.	Cubic Yards.			No. of days at work.
	Earth.	Rock.	Total.	
125	14,700	....	14,700	13
258	9,355	2,339	11,694	8

BAS OBISPO DISTRICT.

Shovel No.	Earth.	Rock.	Total.	No. of days at work.
229	438	33,872	34,310	24
122	23,888	....	23,888	19

EMPIRE DISTRICT.

Shovel No.	Earth.	Rock.	Total.	No. of days at work.
227	....	24,958	24,958	13
205	....	27,027	27,027	16
215	....	34,492	34,492	24
220	....	35,520	35,520	24

CULEBRA DISTRICT.

Shovel No.	Earth.	Rock.	Total.	No. of days at work.
205	....	15,166	15,166	8
206	....	38,173	38,173	24
227	....	19,900	19,900	11
260	....	36,526	36,526	24

BEST RECORDS FOR ONE DAY.

Shovel No.	Location.	Date.	Character of material excavated.	Cubic yds. excavated.
258	Tabernilla	Nov. 6.	Earth	2,110
258	Tabernilla	Nov. 8.	Earth	1,980
127	Tabernilla	Nov. 10.	Earth	1,590
216	Bas Obispo	Nov. 24.	Rock	1,955
229	Bas Obispo	Nov. 5.	Rock	2,145
229	Bas Obispo	Nov. 6.	Rock	1,968
202	Empire	Nov. 16.	Rock	2,530
227	Empire	Nov. 23.	Rock and earth	2,508
224	Culebra	Nov. 27.	Rock and earth	2,755
227	Culebra	Nov. 10.	Rock and earth	2,850
266	Culebra	Nov. 30.	Rock	2,755

SOCIAL LIFE OF THE ZONE.

Women's Clubs.

A meeting of the executive board of the Canal Zone Federation of Women's Clubs will be held at Cristobal on Wednesday, December 15. The quarterly convention of the Federation will be held at Cristobal in January. The president of the Federation, Mrs. Thomes E. Brown, jr., visited the Paraiso Woman's Club on Wednesday, December 8. There was a good attendance at the meeting. Mrs. Brown spoke informally on club work with special application to the conditions existing in Paraiso, and the opportunities for development along the lines of study and philanthropic effort. Mrs. Albert Herman, chairman of the art and literature department of the Cristobal Woman's Club was also present, and spoke briefly on the work of her department, and the increasing interest of the members in their study. An open discussion followed, all the members taking part. Refreshments were served by a committee with Mrs. H. C. Bain as chairman. Mrs. William Lowe sang. Mrs. E. H. Ellenwood, president of the Paraiso Club, has been appointed chairman of the home committee of the Canal Zone Federation in the place left vacant by the resignation of Mrs. H. J. Slifer. The committee will endeavor to publish a Federation cook book, as projected at the beginning of the year. The president of the Federation will visit the Gorgona Woman's Club at the business meeting on December 16, and the Empire Woman's Club on December 23.

The Empire Woman's Club held a business meeting on December 9. There was a large attendance. Arrangements for the bazaar and dance to be held at the Commission clubhouse on December 15 were completed. A supper will be served on the veranda in the afternoon beginning at 5 o'clock. The ballroom will be opened for dancing on the arrival of the special trains from Pedro Miguel and Gorgona. A number of articles have been donated to the bazaar by merchants of Panama and Empire.

The ladies of Corozal have formed an embroidery club which meets on the first and third Thursdays in each month. The officers are: Mrs. A. Heckerman, president; Mrs. J. C. Keller, vice-president; Mrs. J. H. Ball, secretary. Beginning December 16, the club will meet at the social hall. There are 40 members.

Christmas Entertainments.

The Christmas entertainment of the Gorgona Sunday school will be held in the chapel on Sunday evening, December 26. A program has been prepared consisting of songs, Christmas carols and recitations, and a pantomime to be acted by the children. The chapel will be suitably decorated. The membership of the Sunday school in increasing and the interest manifested in the work is well sustained. On a recent occasion the attendance was 87.

The general Christmas celebration for the community will take place at the Commission clubhouse on Christmas Eve. Every child in Gorgona will be remembered at this time. The various organizations of the town are combining in the preparations for the event.

The Sunday school of St. Luke's Church, Ancon, will hold a Christmas entertainment in Ancon hall during Christmas week. There will be a Christmas tree, and it is expected that the pupils of the Sunday school will take part in the exercises.

The Corozal Union Sunday school will hold an entertainment, with a Christmas tree, in the social hall on Christmas Eve. The Sunday school has provided a gift for every child in Corozal, but parents and others are invited to send any gifts that they may wish to give for distribution at this time. Such presents will be received at the hall on Friday afternoon, December 24, at any time before 5 o'clock. The exercises will begin at 7.30 p.m.

Miscellaneous Events.

The Empire Camera Club held an open meeting on Wednesday, December 9. Mr. E. H. Kemp of New York, gave a lecture on the art of making lantern slides, illustrated by his own photographs. A large number of members and their friends were present.

Tuesdays and Thursdays are ladies' days at the Empire clubhouse, and the bowling alleys are filled with a score or more players between the hours of 2 and 5 o'clock in the afternoon.

Residents of Las Cascadas tendered a reception to Mrs. Charles R. Lingo in the lodge hall on the afternoon of November 30. On Saturday evening, December 4, the Masonic Club of Las Cascadas held a reception in honor of Mr. C. R. Lingo. They sailed for the States on the *Ancon* on December 10. Mrs. Lingo expects to remain at her home in Ohio.

The monthly dance of the Gorgona Dancing Club was held at the clubhouse on Saturday evening, December 4. There was an unusually large attendance.

The first social event to take place in the new hall at Corozal will be a dance on Christmas night. A special train will be run from Balboa and Ancon.

The Empire Social Club will give an entertainment on Friday evening, December 17 at Kangaroo hall, for the benefit of the Canal Zone branch of the American Red Cross. The program will consist of jokes, readings, monologues, dancing, club swinging, etc., and music will be furnished by the Tivoli orchestra. The charge for reserved seats will be 50 and 75 cents. A special train will be run from Culebra, returning immediately after the entertainment.

Church Work.

The Gorgona Christian Endeavor Society held a business meeting with election of officers for the ensuing year at the Commission chapel on Monday evening, December 13. The society is arranging for an entertainment to be held in January.

Bishop Frank M. Bristol will speak at the 7.30 service at the Methodist Episcopal church in Panama, Sunday evening, January 2, 1910. All are cordially invited to hear him. Those who desire to attend the reception to be given him are requested to write to the Rev. William W. Gray, Box 5, Ancon, C. Z., at once, so that the necessary arrangements can be made. A special train will be run to Colon after the reception if there are enough people from along the line to justify it.

Bishop Albion W. Knight of the Protestant Episcopal diocese of Cuba made visits to the 17 missions of his church in Panama and the Canal Zone during the week ending December 13, and on the 14th left for Jamaica on the Royal Mail steamship *Magdalena*.

ISTHMIAN BASEBALL LEAGUE.

RESULTS OF GAMES, DECEMBER 12.

Empire, 5: Gorgona, 3.

Ancon-Marines—postponed, wet grounds.

STANDING OF CLUBS.

	Won	*Lost*	*P. C.*		*Won*	*Lost*	*P. C.*
Ancon......	1	0	1.000	Empire....	1	1	.500
Gorgona...	2	1	.666	Marines....	0	2	.000

SCHEDULE FOR DECEMBER 19:

Ancon at Empire.

Marines at Gorgona.

Only one game was played in the Isthmian League on Sunday, December 12. Empire defeated Gorgona on the latter's grounds, but the game was protested, Gorgona claiming that Christopher, Bell, Fluharty and Marshall were under contract to the Atlantic League, and therefore not eligible to play with Empire. The game scheduled at Ancon park between the Ancon team and the Marines was postponed.

The score of the Empire-Gorgona game was as follows:

Empire.	AB.	R.	H.	PO.	A.	E.
Bryan, ss.............	4	2	2	1	0	0
Moore, c.............	5	0	1	6	1	0
Fluharty 2b..........	4	0	0	2	3	0
Bell, 1b...............	4	1	1	12	1	0
Christopher, p.,.......	3	0	1	0	5	0
McCullough, lf.......	4	0	0	1	0	1
McAuley, 3b..........	4	0	2	2	0	0
Murphy, cf...........	4	1	1	1	0	0
Lyon, rf..............	4	1	0	2	0	1
Total	36	5	8	27	10	2

Gorgona.	AB.	R.	H.	PO.	A.	E.
Dougberty, 2b	2	0	0	1	2	2
Massen 2b............	2	1	2	0	1	0
Magee, lf.............	4	0	1	3	0	0
Barney, rf:...........	4	1	1	0	0	0
Wright, 1b............	4	0	1	5	1	1
Herring, c............	4	0	1	10	4	0
Clements, cf.........	4	0	0	2	0	0
Emery, 3b............	4	0	3	3	1	1
Morton, ss...........	4	0	0	1	0	0
Case, p...............	4	1	0	1	0	1
Total................	36	3	9	*26	9	5

*Moore out for bunting foul on third strike.

Empire.....	2	0	0	0	0	0	3	0	0—5
Gorgona.................	1	0	0	0	0	0	0	2	0—3

Earned runs—Empire, 1; Gorgona, 1. Home run—Bell. Base on balls—Off Case, 2. Struck out—By Case, 8; by Christopher, 6. Left on bases—Empire, 6; Gorgona, 6. Stolen bases—Fluharty, Bell, McAuley, Magee. Double plays—Christopher, Bell and Fluharty; Dougherty, Wright and Emery. Time of game—2 hours and 5 minutes. Umpire—Sorrell. Official scorer—D. G. Hayes.

The Marines and Baseball.

THE CANAL RECORD:

I would thank you to publish the enclosed in your next number. Thanking you in advance for the favor, I remain,

Respectfully, H. A. RICKER.

Camp Elliott, December 8, 1909.

The members of the Marine baseball team consider themselves obliged to offer to the public an explanation in connection with the regrettable incident that caused the baseball game played in Ancon on Sunday, December 5, 1909, to be a disappointment, not only to the visitors, but also to the players of the Ancon baseball team, the members of the Marine team, and all the marines stationed in Camp Elliott. Two players refused to play and not enough substitutes were on hand to continue the game.

In consequence two players of the team were dropped. Others will take their positions until the U. S. S. *Prairie*, whose arrival has been delayed, brings the relief of the battalion now stationed in Camp Elliott. From this battalion the best players will be selected and a strong team will be the result.

The members of the Marine team regret the outcome of the game of December 5. The new team as reorganized, will play only sportsmanlike games and will contribute to the pleasure that the public wiil derive from the games of the Isthmian Baseball League to the best of their ability.

OFFICIAL CIRCULARS.

Christmas, and New Year's Day.

CULEBRA, C. Z., December 13, 1909.

CIRCULAR NO. 298:

Christmas Day, Saturday, December 25, 1909, and New Year's Day, Saturday, January 1, 1910, will be observed as holidays in the Canal Zone, and as far as practicable all public business will be suspended on those days.

GEO. W. GOETHALS, *Chairman.*

Leave with Pay for Hourly Employes.

CULEBRA, C. Z., December 11, 1909.

CIRCULAR NO. 297:

1. By direction of the Secretary of War, American citizens, who are employes of the Isthmian Canal Commission or the Panama Railroad Company, on the gold hourly roll, will be granted two weeks' leave of absence with pay for each twelve months' service performed after December 31, 1909.

2. This leave will be computed as fourteen consecutive days of eight hours each, to be at the same rate of pay per hour received at the time leave is taken.

3. Leave may be taken each year, or accumulated to an amount not exceeding six weeks, as follows: After ten months' service an employe will be entitled to two weeks with pay, after twenty-two months' service four weeks with pay, and after thirty-four months' service six weeks with pay.

4. No additional leave with pay will be granted for fractional parts of a year.

5. Leave may be taken at any time after it is earned, as may be deemed by the head of the department to be for the best interests of the service.

6. The amount of leave with pay earned may be taken in conjunction with leave without pay, the total not to exceed six weeks for any one leave.

7. If an employe, who has earned leave of absence with pay while employed on an hourly basis, is transferred to a monthly basis, he may be granted six weeks' leave of absence with pay, after service on the monthly basis, as follows:

After eight months' service, if prior to his transfer he has earned two weeks' leave of absence with pay.

After four months' service, if prior to his transfer he has earned four weeks' leave of absence with pay.

Immediately, if prior to his transfer he has earned six weeks' leave of absence with pay.

In these cases the six weeks' leave of absence with pay must be taken within four months from the date on which it falls due, and that date will also be considered as beginning the service year when the next subsequent leave of absence with pay is computed.

8. This leave is not a vested right, and will be granted only to employes of the class described above who are not accustomed to the tropics, and must be taken in a country affording the necessary change of climate.

9. Compensation for the period of such leave will not be paid until the first pay period after the employe returns to the Isthmus and reports for duty. Employes not reporting for duty within fifteen days after the expiration of their leave will forfeit the right to pay for the leave period, and may be discharged.

10. A hourly employe granted leave with pay, whose resignation is accepted after two years' satisfactory service may be paid in the States for the full period of such leave.

11. Time lost by an hourly employe on account of leave without pay, in excess of thirty days in one service year, suspensions for discipline, furloughs, sick leave in excess of thirty days in one service year, or injury leave in excess of thirty days in one service year, will not be credited as service entitling an employe to leave with pay.

GEO. W. GOETHALS, *Chairman.*

Pacific Division Storehouses.

CULEBRA, C. Z., December 13, 1909.

CIRCULAR NO. 296-A:

Effective January 1, 1910, the storehouses at present operated by the Pacific Division at Miraflores lock site and at Balboa will be transferred to the Quartermaster's Department. Prior to the transfer, an inventory will be taken by the Quartermaster's Department, assisted by the employes of the Pacific Division. GEO. W. GOETHALS, *Chairman.*

Trainmen on Monthly Basis.

CULEBRA, C. Z., December 11, 1909.

CIRCULAR NO. 229-E:

Circular 229, as revised to October 7, 1909, authorizes the employment of trainmen at 13 cents and 16 cents an hour. Experience has shown that it is difficult to keep an accurate record of the time made by trainmen employed on an hourly basis. The hourly rates will, therefore, be abandoned effective January 1, 1910, and trainmen will be employed at the monthly rate of $30. The pay of trainmen who have served for a period of not less than three months and have demonstrated their efficiency may be increased to $35 a month. GEO. W. GOETHALS, *Chairman.*

Superintendent of Clubhouses.

CULEBRA, C. Z., December 1, 1909.

CIRCULAR NO. 288-B:

Effective this date, Mr. Floyd C. Freeman is appointed Superintendent of Clubhouses, vice Mr. A. Bruce Minear, resigned.

GEO. W. GOETHALS, *Chairman.*

Quartermaster's Department Appointments.

CULEBRA, C. Z., December 7, 1909.

TO ALL CONCERNED:

The following appointments in the Quartermaster's Department are announced, effective December 1:

Mr. C. L. Parker, Assistant Depot Quartermaster, Mount Hope.

Mr. Roy R. Watson, District Quartermaster, Cristobal.

Mr. J. T. Smith, District Quartermaster, Pedro Miguel.

C. A. DEVOL,
Chief Quartermaster.

Porto Bello Tug Service.

CRISTOBAL, December 9, 1909.

Paragraph 1, giving schedule of tug service for Porto Bello and Nombre de Dios, dated November 17, is modified as follows:

For 9.30 a.m., substitute 7.30 a.m.

H. W. STICKLE, *Assistant Engineer.*

The paragraph as amended reads:

A tug will leave Dock 13, Cristobal, daily, for Porto Bello only, as soon as practicable after 7.30 a. m., Sundays excepted; and as soon as practicable after 6 p. m., Saturdays and Sundays excepted; and as soon as practicable after 7 p. m., on Sundays.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending December 22, 1909 (75th meridan time):

DATE.	Low.	High.	Low.	High.
	A. M.	A. M.	P. M.	P. M.
Dec. 16	....	5.45	12.06	6.13
Dec. 17	12.30	6.26	12.53	7.00
Dec. 18	1.20	7.14	1.41	7.50
Dec. 19	2.14	8.08	2.35	8.46
Dec. 20	3.14	9.08	3.36	9.45
Dec. 21	4.18	10.15	4.40	10.50
Dec. 22	5.21	11.26	5.48	11.55

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Christmas Celebration at Empire.

The plans for the celebration to be held Christmas Eve at the Empire clubhouse are about completed. Miss Heller has been added to the committee as chairman of the program committee. Mr. E. E. Rigney has been appointed chairman of the decorating committee. Mr. T. L. Clear, chairman of the finance committee, reports excellent progress in securing subscriptions. The children may expect to see Santa Claus.

Auction Sale of Wash Stands.

There will be sold at public auction to the highest bidder, for cash, at Mount Hope Depot, on Monday, December 27, 1909, at 3 o'clock p.m., the following described public property which is no longer required in the service: 312 wash stands, (more or less.) Sales will be made in such quantities as are desired by the bidder. A cash deposit of at least 25 per cent of the bid will be required from the successful bidder at the time of sale, and full payment will be necessary before the property is removed. Property not paid for in full and removed within 48 hours after the sale will be considered as abandoned by the bidder and the deposit forfeited. The Government reserves the right to reject any or all bids The above property may be seen and examined at Mount Hope Depot any week day between the hours of 8 and 11 a.m., and 1 and 5 p.m. C. NIXON, *Depot Quartermaster.*

Proposals for Type-18 House, Gatun.

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., December 22, 1909, and then opened, for the construction by contract of one type-18 house at Gatun. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $200 when the contract is signed.

C. A. DEVOL, *Chief Quartermaster.*

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

Following the band concert Sunday evening, a special sacred song service was held at the Y. M. C. A. A large audience enjoyed the following numbers: Piano prelude, Mrs. F. C. Freeman; solo, Miss Williams; mixed quartet, Mrs. Snyder, Mrs. Freeman, Messrs. Kramer and Case; solo, Miss Roche; male quartet, Messrs. Kramer, Kersey, Tupper and Case; mixed chorus, Mrs. Snyder, Mrs. Freeman, Miss Hackenberg, Miss Williams, Messrs. Kramer, Kersey, Tupper and Case.

On Friday evening, December 17, at 8.15, a moving picture entertainment will be given at the clubhouse. Most of the pictures will be of a comical character and should afford an enjoyable evening.

The baseball and basketball teams are practising regularly, the former especially, to get ready for the interassociation league which starts January 8.

EMPIRE.

On Friday evening, December 9, Mr. E. H. Kemp was the guest of the Camera Club and gave a very instructive talk on the making of lantern slides. The club has arranged a series of subjects for discussion at their weekly meetings on Wednesday nights, as follows: December 15, subject, "Exposure," its effect upon the light sensitive film and how to get an approximately correct exposure. December 22, subject, "Development," the action of the various developing agents and their control. December 29, subject, "Fixing and Washing," formulæ and details of handling negatives in development. January 5, subject, "Negatives," their future treatment, such as reduction, intensification, etc. January 12, subject, "Gaslight Papers," their development, including details of various methods in printing and control of development. Members of the club are especially urged to be on hand at these meetings.

On Thursday evening, December 9, the married men defeated the bachelors in a match game of bowling by the following scores:

Married Men.				Bachelors.			
McCloud	145	149	143	Potter	167	225	198
Bardelson	117	163	151	Schwartzbach	163	123	148
Shaughnessy	184	181	177	Gustavson	190	127	169
Goolsby	113	197	161	Edwards	184	179	172
Gorham	190	167	235	Huson	156	154	158
Total	749	857	867	Total	860	808	845

On Saturday, December 11, the Sons of Daniel Boone again defeated the Boy Pioneers in a duck pin bowling match by the following scores:

S. D. Bs.	222	207	240
B. Ps	181	175	244

On Friday, December 16, a cinematograph entertainment will be given at the clubhouse.

GORGONA.

The "Ragtime" bowling tournament, the prize for which will be awarded to the two-man team bowling the highest pinfall in three games, at present stands as follows:

Ridge and Buchanan	1,059
Durand and Roper	1,059
Humphrey and King	1,046
Cram and King	1,044
Hinckley and Cram	1,042
Hinckley and Buchanan	1,023
Durand and Buchanan	1,020
Buchanan and Varenkamp	1,016

The present standing in the chess tournament is as follows:

	Won.	*Lost.*
Boyer	6	0
Nagle	5	3
Varenkamp	3	2
Strong	2	3
Powell	2	4
Schultz	1	3
Edwards	0	2
Burton	0	1

In a recent match game of checkers between Messrs. Hayes and Shaw, Hayes won a decided victory. The latter will be glad to meet any member of of the Y. M. C. A. in the Canal Zone.

A match bowling game on December 9, between the "Emerys" and the "Smiths" resulted in a victory for the "Emerys."

A cinematograph entertainment will be given on Monday evening, December 20, at the clubhouse.

CRISTOBAL.

There will be an indoor baseball game between Empire and the local team on Saturday evening, December 18.

On Friday evening, December 10, a good-sized audience enjoyed the cinematograph entertainment given at the clubhouse.

An orchestra concert was given on Monday evening, December 13, by "The Instrumental Quartette."

COMMISSARY DEPARTMENT.

Christmas Toys, Trees, Cakes and Pies.

CRISTOBAL, December 8, 1909.

CIRCULAR NO. 115:

There will be placed on sale at all the Commissary stores in a few days, an assortment of games, toys, etc., for the holiday trade. A consignment of Christmas trees has been ordered from the States and will be ready for sale about December 15 It is desired that persons desiring Christmas trees leave their orders at the various commissaries at as early a date as possible. Orders will be filled in the order in which received. It is expected that prices of trees will be about the same as last year.

Orders will be taken at all the commissaries for fruit cake and special mince pies for Christmas. They will be made only on order, and it is requested that the orders be left with the storekeepers at as early a date as possible. The fruit cake will improve if properly aged and opportunity should be given for baking at the proper time. Prices—fruit cake, $1; pies, 25 cents.

In taking special orders for cakes and pies, storekeepers should mark them plainly, "For delivery December 24." JOHN BURKE, *Manager.*

Approved:

EUGENE T. WILSON, *Subsistence Officer.*

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning December 11:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	27
Chops	per lb	29
Cutlets	per lb	29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	4
Soup	per lb	6
Stew	per lb	10
Corned	per lb., 12, 14,	16
Chuck roast	per lb	14
Pot roast	per lb	16
Rib-roast, second cut (not under 3½ pounds)	per lb	19
Rib-roast, first cut (not under 3 pounds)	per lb	21
Sirloin roast	per lb	22
Rump roast	per lb	22
Porterhouse roast	per lb	22
Steak, Chuck	per lb	15
Round	per lb	16
Rib	per lb	21
Sirloin	per lb	22
Porterhouse	per lb	22
Rump	per lb	22
Tenderloin	per lb	27

MISCELLANEOUS.

Livers—Beef	per lb	11½
Calf	each	65
Sausage—Pork	per lb	17
Bologna	per lb	17
Frankfurter	per lb	17
Leberwurst	per lb	17
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	30
Oysters	keg	90
Eggs, fresh	dozen	†40

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, fatted	each	1.30
medium weight	each	90
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50

CURED AND PICKLED MEATS.

Hams, York Cut, Finnis and Fisher	per lb	30
Bacon—Breakfast, whole piece	per lb	27
Breakfast, sliced	per lb	29
Ham—Sugar-cured, sliced	per lb	§25
One-half, for boiling	per lb	§21
Westphalia	per lb	*36
Hocks	per lb	‡8
Sugar cured	per lb	20
Beef, salt, family	per lb	10
Pork, salt	per lb	15
Ham, boiled	per lb	28
Ox tongues	each	1.00
Pigs' feet	per lb	8
tongues	per lb	16

DAIRY PRODUCTS.

Butter—Prints, prime quality	per lb	45
Cheese—Roquefort	per lb	45
Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	31
Edam	each	1.05
Camembert	per lb	28
Neufchatel	each	6
Gouda	per lb	34
Parmesan	bottle	20
French cheese in tins—Camembert, Brie, Neufchatel	1-lb tin	20
Milk, Briarcliff	bottle	**25
Butter	bottle	**15

VEGETABLES AND FRUITS.

Celery	per hd	5
Lettuce	per lb	10
Potatoes, white,	per lb	3½
sweet	per lb	2½
Onions	per lb	3
Squash, Hubbard	per lb	*3
Yams	per lb	3½
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	4
Cucumbers	per lb	†10
Lemons	dozen	24
Cabbage	per lb	3
Cranberries	per lb	10
Apples,	per lb	5
Oranges	dozen	12
Grapefruit	each	4
Tangerines	each	2
Pineapples	each	18

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal and Colon, during the week ending December 11, 1909, with supplies for the Isthmian Canal Commission:

Tagus, December 5, from New York, with 1,000 pounds asbestos gaskets for stock.

Sarnia, December 7, from New York, with cylinder cocks, monkey wrenches, etc., for stock.

Atenas, December 9, from New Orleans, with 54,000 pounds fire clay; 533 switch ties; 7,200 feet hickory lumber; 526 pieces cast iron water pipe; 6 class "C" ranges, and 399 tons oats, for stock; 20,412 feet yellow pine and white oak lumber, and 208 pieces cast iron water pipe, for Pacific Division; 10,133 feet white oak lumber for Mechanical Division; 50 conveyor buckets, and 6 tons drill steel for Atlantic Division.

Advance, December 9, from New York, with 122½ tons pipe; 7 tons bar iron; 25 reels sash cord; 40 tons bolts and nuts, and 1,500 gallons lubricating oil, for sotck; six 36-inch valves for locks at Gatun, Pedro Miguel and Miraflores; 19 tons castings for steam shovels; 11 tons brasses for cars; 19 tons castings for forms for Pacific Division; 12 concrete buckets for Atlantic Division; 49 barrels alcohol for Sanitary Department; and a miscellaneous cargo aggregating 2,360 packages, weighing 455 tons.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., December 15, 1909.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Adkins, H.
Arango, Richard M.
Calvo, Dr. J. E.
Cameron, Charles J.
Church, Sidney
Darnall, Miss Caroline
Emanuel, Mrs. Theresa
Gayer, Mrs. A. H.
Givnan, Thomas
Haldeman, Ezra
Johnson, C. W.
Malcolm, James E.
McCullough, George
Michel, Charles F.
Payne, Arthur A. (3)
Payton, E.
Peay, Winfield
Ploessel, E. N.
Pryor, Hinshel D.
Quick, Michael
Rose, Miss Nellie
Sargent, Howard C.
Simpson, Theodore
Sylvester, Jos. L.
Towns, Chas.
Van Dine, P. B.
Waller, Fred
Walton, William
Wheeler, Clarence
Wilson, D. M.

Launch Service to Taboga.

The steamer *Sanidad* leaves the dredge landing at Balboa at 9 o'clock Tuesday, Thursday and Saturday mornings. On the return trip it arrives at Balboa about 4.30 p. m. in time to make connections for the 5.30 train at Panama.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Cristobal	P. R. R.	Wednesday	Dec. 8
Panama	P. R. R.	Thursday	Dec. 9
Allianca	P. R. R.	Tuesday	Dec. 14
Colon	P. R. R.	Tuesday	Dec. 21
Ancon	P. R. R.	*	Dec. *
Advance	P. R. R.	Monday	Dec. 27

CRISTOBAL TO NEW YORK.

Panama	P. R. R.	Tuesday	Dec. 21
Cristobal	P. R. R.	*	Dec. *
Allianca	P. R. R.	Sunday	Dec. 26
Colon	P. R. R.	Sunday	Jan. 2
Advance	P. R. R.	Saturday	Jan. 8

*A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. The *Ancon* is due to leave New York about December 23. The *Cristobal* will arrive about December 16, and will probably leave for New York about December 20. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

NEW YORK TO COLON.

Oruba	R.-M.	Saturday	Dec. 11
Prinz Aug. Wilhelm	H.-A.	Saturday	Dec. 18
Magdalena	R.-M.	Saturday	Dec. 25
Prinz Joachim	H.-A.	Saturday	Jan. 1
Clyde	R.-M.	Saturday	Jan. 8
Prinz Aug. Wilhelm	H.-A.	Saturday	Jan. 15
Thames	R.-M.	Saturday	Jan. 22
Prinz Joachim	H.-A.	Saturday	Jan. 29
Atrato	R.-M.	Saturday	Feb. 5
Prinz Aug. Wilhelm	H.-A.	Saturday	Feb. 12
Tagus	R.-M.	Saturday	Feb. 19
Prinz Joachim	H.-A.	Saturday	Feb. 26
Oruba	R.-M.	Saturday	Mar. 5

COLON TO NEW YORK.

Prinz Joachim	H.-A.	Tuesday	Dec. 21
Clyde	R.-M.	Wednesday	Dec. 29
Prinz Aug. Wilhelm	H.-A.	Tuesday	Jan. 4
Thames	R.-M.	Wednesday	Jan. 12
Prinz Joachim	H.-A.	Tuesday	Jan. 18
Atrato	R.-M.	Wednesday	Jan. 26
Prinz Aug. Wilhelm	H.-A.	Tuesday	Feb. 1
Tagus	R.-M.	Wednesday	Feb. 9
Prinz Joachim	H.-A.	Tuesday	Feb. 15
Oruba	R.-M.	Wednesday	Feb. 23
Prinz Aug. Wilhelm	H.-A.	Tuesday	Mar. 1

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

NEW ORLEANS TO COLON.

Turrialba	U.F.C.	Saturday	Dec. 11
Abangarez	U.F.C.	Saturday	Dec. 18
Atenas	U.F.C.	Saturday	Dec. 25

COLON TO NEW ORLEANS.

Turrialba	U. F.C.	Tuesday	Dec. 21
Abangarez	U.F.C.	Tuesday	Dec. 28
Atenas	U.F.C.	Tuesday	Jan. 4

COLON TO BARBADOS, CALLING AT TRINIDAD.

Oruba	R.-M.	Tuesday	Dec. 21

A ship of the United Fruit Company's line sails from the dock at Colon, at 3 p. m., Tuesday of each week.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Barbadian* for New Orleans, via Kingston, Ja., on or about January 2.

The steamers *David* of the National Navigation Company, and the *Taboga* of the Pacific Steam Navigation Company, leave Panama, for David, province of Chiriqui, and intermediate points, the first and third weeks of each month.

Vessels arriving at and departing from Balboa during the week ending December 11, were as follows:

Arrivals—December 6, *Acapulco*, from San Francisco; December 9, *Limari*, from south ports.

Departures—December 4, *Pennsylvania*, for San Francisco; December 5, *Guatemala*, for south ports, and *Pectan*, for north ports; December 6, *Chiriqui*, for intermediate ports; December 8, *Arica*, for Guayaquil; December 9, *Manavi*, for intermediate ports.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, DECEMBER 22, 1909. No. 17.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Chairman's Monthly Report.

The report of the Chairman of the Isthmian Canal Commission for the month of November is published in full in other columns of this issue of THE CANAL RECORD. It gives a detailed account of the progress of Canal work in all departments and divisions.

Loss of 20-Inch Suction Dredge.

A 20-inch suction dredge for use in the hydraulic fill at Gatun Dam put out from Baltimore on December 9 for Cristobal, in tow of the tug *Tormentor*. A cable message from Washington, received last week, states that the dredge is a total loss, and it is assumed that it sank at sea. The price delivered was $158,000 and 90 per cent of this amount was to be paid by the Commission on receipt of the insurance policy. The dredge was built by the Ellicott Machinery Company of Baltimore, and immediately on receipt of the news of its loss the building of a new dredge was begun. The company expects to deliver the new dredge in four months.

Pacific Division Hydraulic Plant.

Test pits have been sunk to locate a suitable foundation for the pumping station of the new hydraulic plant of the Pacific Division, which will be built on the west bank of the Canal, about one and one-half miles south of Miraflores Locks. They show rock at about sea level. Solid foundations will be put in, but the superstructure will be of a temporary character, consisting of frame work sheathed with galvanized iron. The plant will be operated by steam and will be used in cutting up the earth, by means of three hydraulic monitor nozzles, in the unexcavated section of the Canal prism extending from the south end of Miraflores Locks to a point a little north of Corozal, where the work of the Pacific Division dredges now terminates. An article on the method of excavating this section, which involves dredging and sluicing of the earth, and subsequent removal of the rock thus uncovered by steam shovels, was published in THE CANAL RECORD of June 23, 1909.

Concrete Laying at Gatun.

A total of 10,046 cubic yards of concrete was placed in the Gatun Locks during the week ending December 18. The record by days follows:

	Cubic Yards.
December 13	1,688
December 14	1,604
December 15	1,630
December 16	1,676
December 17	1,688
December 18	1,760
Total	10,046

The record up to the close of work on December 18 was as follows:

	Amount—Cu. yds.	Average per day—Cu. yds.
August (seven days)	1,298	185
September (26 days)	11,934	459
October (31 days)	29,378	948
November (24 days)	30,098	1,254
December 1 to 4	6,254	1,563
December 6 to 11	10,430	1,737
December 13 to 18	10,046	1,674
Total	99,438	956

Lock Work at Pedro Miguel.

The best record for a single day in laying concrete in the Pedro Miguel Locks was exceeded on December 16. The three highest daily records are as follows: October 30th, 563 cubic yards; December 3d, 571 cubic yards; December 16th, 622 cubic yards.

The daily record for the week ending December 18 follows:

	Cubic Yards.
December 13	442
December 14	457½
December 15	456
December 16	622
December 17	549½
December 18	516½
Total	3,043½
Daily average	509

The amount of concrete placed in the locks from the beginning of work on September 1, to December 18, inclusive, is as follows:

	Cubic Yards.
September	2,369½
October	8,396¼
November	10,080½
December 1 to 4	2,111
December 6 to 11	2,752½
December 13 to 18	3,043½
Total	28,753¼

Work on the permanent handling plant is going forward steadily. The erection of the first of the four chamber cranes is about 60 per cent completed, and the construction of false work in the forebay, preliminary to the erection of the first of the two berm cranes, was begun last week. A large amount of crane material has been received, the steamship *Cristobal* on its last trip bringing a consignment, aggregating 592,000 pounds.

Three steam shovels are engaged in sizing the walls of the east chamber and leveling the floor to grade. Practically all excavation by steam shovels in the locks will be completed by the end of the year. Work on the second 2-yard stationary mixer on the east bank is well advanced.

The lock pit is now nearly free of water. Since the installation of the pumps in the forebay, none has entered the pit from that direction, and the little that percolates into the west chamber collects in a sump and is quickly pumped out.

Thousand Ton Shipments of Old Scrap.

The steamer *Ancon*, which left Cristobal for New York on December 10, took the first thousand ton shipment of old scrap iron sent from the Isthmus. Shipments heretofore have been of smaller quantities. The new terminal facilities at Hoboken will enable the ship to unload the scrap readily into cars for delivery. The *Ancon* also took 1,682 bundles of cement bags back to the cement contractors. The *Colon*, which sailed from the Isthmus on the 9th, had in its cargo 68,200 pounds of wrought scrap, and 468 bundles of scrap rubber. The *Cristobal*, which sails for the States on December 25, is also expected to have one thousand tons of scrap iron and steel on board.

Work Resumed on Ancon Corral.

Work on the new corral, located on the north slope of Ancon Hill, adjacent to the insane asylum reservation, was resumed on Friday, December 10, and will be vigorously prosecuted from now on. It is expected that the buildings will be ready for occupancy by the latter part of February, or the 1st of March. The work of grading the site was begun last February, but when the rains set in, the outward edge of the fill settled and operations were suspended. The fill has long since ceased to sink, but to guard against any further movement the concrete footings of the outer section of stalls will be sunk to solid foundation, and in addition, all that part of the site will be cribbed in with old iron rails.

Up to the time of the resumption of operations, the work had consisted mainly of grading, and the laying of the concrete floor for the stall section nearest the road. Under the amended plan of the corral, one of the stable buildings has been considerably shortened, so that now there will be one building 300 feet, and another 200 feet long. The largest of these buildings will contain 96 stalls, and a room for feed and harness. The other building will have 64 stalls, with the same provision for harness and feed room. The stalls in one section will be arranged in two rows of 48 stalls each, and in the other of two rows of 32 stalls each. Between these rows, a Decauville track will be laid for use in transporting feed, etc.

In addition to the stable buildings, there will be a wagon shed, sick bay, carriage shed, and blacksmith shop. Three buildings,

NOTES OF PROGRESS.

(Continued.)

part of a labor camp situated nearby, will also be utilized, one as a repair shop, another as a storehouse for feed, and the third as quarters for the men employed at the corral.

The work of preparing the site and laying the concrete foundations will be carried out by the Constructing Quartermaster's forces, but the buildings will probably be erected by contract. The corral is designed to accommodate only Government animals, but extra space will be rented out as heretofore, to private owners. The buildings at the old corral, which were constructed during the time of the French, will probably be advertised for sale as soon as they are ready to be vacated.

Rio Grande Makes a Change.

During the flood in the Rio Grande, in November, the river did a little sluicing on its own account at a point opposite Corozal, where it crosses the Canal. The current was so swift that it ate away a section, several hundred feet square, from a projecting tongue of land on the east bank, thereby enlarging the bed of the stream at that point. A large quantity of the mud so removed was deposited on the bottom of the Canal, and it took a dredge ten days to clear the accumulation. After crossing the Canal the current also washed out a section of the west bank.

The De Lesseps in Service.

The tugboat *De Lesseps* was put in service at the Cristobal marine shops on December 14, and will be used in general towing for the Atlantic Division in the harbor at Cristobal. This vessel was built in Scotland in 1884, and the hull was reconstructed in 1897. It did service under the French by whom it was left with other marine equipment in the inlet at Cristobal, known as Folk River. About three years ago it was sunk during high water in Limon Bay, and remained under water until last June, when it was raised and taken to the marine shops. The frame was in good condition, but many of the plates were replaced and the machinery was taken out and given a thorough overhauling. In the French service the vessel was known as No. 18, but it has been renamed in honor of the promoter of the French canal. It is 75 feet long, has a 15-foot beam, is 9 feet deep, and has a rated horsepower of 55.

Balboa Storehouse Improvements.

An oil house will be built at Balboa for use of the Pacific Division storehouse. It will be located about midway between the resident engineer's office and the shipways, and will be 25 feet wide, 50 feet long, and 12 feet high to the eaves. Its roof and sides will be of galvanized iron, and it will be provided with a sanded floor covered with old French iron plates. All inflammable stores, such as oils, greases, paints, waste, etc., will be kept there.

Two racks made of iron pipe will be constructed in the storage yard for holding black and galvanized iron pipe of various sizes. One rack will be fitted with twenty-four pockets, while the other will have single pockets suitable for holding pipe from 12 to 3-inches in diameter.

Operations at Nombre de Dios.

A total of 6,350 cubic yards of sand was removed by locomotive cranes at Nombre de Dios during November, and 5,891.99 cubic yards were transported to Gatun. Seventeen hundred feet of new track were laid in the sand zone and the track work was kept well ahead of the cranes. The dredge *Nombre*, which sunk in October, has been raised and is undergoing repairs. A pumping station, located up the Fato River, was completed on November 27, and is supplying all the plant machinery. It is equipped with two duplex pumps, and steam is furnished by an old vertical boiler formerly in use at the test pits. A 16-inch standpipe, 66 feet high, has been erected for use in watering locomotives, and a 2880-gallon tank formerly on an old clam-shell dredge was brought into service in this connection.

LABOR FORCE AND QUARTERS IN NOVEMBER.

The report of the Chief Quartermaster for the month of November shows that of the 33,808 employes on the rolls of the Commission and Panama railroad on November 24, 22,014 were laborers for the Commission, 4,372 were on the "gold" roll of the Commission, and the remainder comprised the "gold" and "silver" forces of the Panama railroad. During the month the total of separations from the "gold" force of the Commission was 209, and of additions 222, making the net additions 13.

The number of family quarters occupied by "gold" employes was 1,634, and the occupants numbered 4,946; bachelor quarters by "gold" employes, 2,141, and the occupants numbered 3,395, of whom 128 were women. The family quarters occupied by West Indians numbered 1,019, and the occupants 3,341; bachelor quarters, 274, number of occupants, 5,023. The family quarters occupied by European laborers numbered 309, and the occupants 868; bachelor quarters 130, and the number of occupants, 4,691.

The force actually at work on November 24, was as follows:

DEPARTMENT.	Monthly.	Artisans.					European Laborers.		West Indian Laborers.				Total Silver.	Total Gold.	Grand Total.
		44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	16 cents.	13 cents.	10 cents.	7 cents.			
Const'ct'n and Eng'r'ng.	2,978	21	45	291	677	2,066	2,826	672	948	2,770	4,125	286	17,705	3,240	20,945
Civil Administration....	172	..	..	1	2	13	......	....	......	......	......	....	188	342	530
Sanitation........	611	..	..	5	5	7	......	2	1	3	241	7	882	367	1,249
Quartermaster's.........	1,005	4	2	42	158	213	274	30	40	13	801	15	2,597	233	2,830
Subsistence.............	624	..	..	1	2	......	......	....	......	......	......	....	627	63	690
Disbursements..........	8	..	..	....	.....	......	......	....	......	......	......	....	8	24	32
Examinat'n of Accounts.	7	..	..	....	.....	......	......	....	......	......	......	....	7	103	110
Totals...............	5,405	25	47	340	844	2,299	3,100	704	989	2,786	5,167	308	22,014	4,372	26,386

Panama railroad force, 6,564; Panama railroad commissary force, 858.

VALVE SEATS FOR LOCKS.

Bids to Be Asked on Large Order of Steel and Iron.

Specifications have been forwarded to the States in order that bids may be requested by the Washington office for the seats and frames of Stoney gate valves to be embedded in the masonry of the twin locks at Pedro Miguel, and the upper twin locks and the Spillway at Gatun. Each of these two twin locks will require two sets of guard valves and 12 sets of operating valves; two of the latter for use at Gatun have already been contracted for making the total number of operating valve chambers under the present specifications 22, ten for Gatun and 12 for Pedro Miguel. Three frames have also been requisitioned for the Spillway at Gatun Dam, but they are not for the regulating valves that will finally be installed, but for use only during the construction of the Spillway.

The present condition of work on the locks makes it desirable that the castings be delivered by April 1, 1910.

The valves for which these castings will form the chambers are for the main culverts by which water will be let into and drawn from the locks. Each valve is designed to operate in a well, traveling on two roller train bearings with a span of 10 feet from center to center, fastened to the downstream face of the wall casting. Each valve closes an opening 8 feet wide by 18 feet high. The valves are to be arranged in pairs separated by a pier. The gates will have a total play of only one-fourth of an inch, and the castings must therefore be carefully made and fitted together so that when they are assembled and the valve is in place there will be no interference or bad alignment which would hamper or cripple the operation. The contractor will be required to assemble the castings at some place in the States agreed upon for inspection by an agent of the Commission, and install a template of a complete valve and operate it to the full range of motion without any interference with free and perfect operation.

The material required for *22* sets of valve frames is as follows:

	Pounds.
Cast steel, open hearth	404,800
Cast iron....................................	2,747,469
Structural steel, open hearth, roller tracks to be made from rolled bars	394,854
Rail, standard	47,843
Steel bolts and nuts....................	78,828
Bronze bolts, Tobin....................	338
Cast iron washers......................	28,565

Another Test of Native Lumber.

A further test of native lumber will be made by the Isthmian Canal Commission, and to this end, the Bayano River Lumber Company has agreed to furnish, free of charge at Balboa, 1,200 feet B. M. 3x10"x10' of each of the following varieties: Cedro espinosa, cedro amargo, amarillo fruta, oak, amarillo real, Panama, and Santa Maria. In addition, a sample lot of twenty ties made from various kinds of native hardwoods, all to be 7x9"x8'6" in size, will be included with the shipment.

The lumber, when received, will be shipped to Gorgona and there stored for a period of two months, at the expiration of which time, all that is in good condition will be used in making repairs to equipment. A careful record is to be kept of its performance to enable comparison with lumber shipped here from the States.

EXECUTIVE ORDERS.

Relation of Executive Employes to Congress.

It is hereby ordered that no bureau, office or division chief, or subordinate in any department of the Government, and no officer of the army or navy or marine corps stationed in Washington, shall apply to either House of Congress, or to any committee of either House of Congress, or to any member of Congress, for legislation, or for appropriations, or for congressional action of any kind, except with the consent and knowledge of the head of the department; nor shall any such person respond to any request for information from either House of Congress, or any committee of either House of Congress, or any member of Congress, except through, or as authorized by, the head of his department. WM. H. TAFT.

THE WHITE HOUSE,
November 26, 1909.
[No. 1142]

WAR DEPARTMENT,
WASHINGTON, December 4, 1909.

CIRCULAR:

Under the exception contained in the concluding sentence of the foregoing order, chiefs of bureaus and the Chief of Staff are hereby given general authority to respond directly to any request for information from either House of Congress or any committee or member of either House of Congress on all ordinary and routine matters pertaining exclusively to their respective offices; but information bearing on questions of policy; or on important or unusual matters; or of a character which sound judgment would indicate as coming properly within the discretion of the head of the Department whose views Congress, its committees and members are entitled to know in their consideration of questions affecting the Department; or information which a chief of bureau or the Chief of Staff would wish brought to his knowledge if he were the head of the Department should not be given out without first being submitted to and authorized by the Secretary of War.

J. M. DICKINSON,
Secretary of War.

Gun Club and Hunting Permits.

By authority of the President of the United States, it is ordered:

That Act 14, enacted by the Isthmian Canal Commission by authority of the President under date of September 3, 1904, entitled "An Act to establish a penal code for the Canal Zone, Isthmus of Panama," be and the same is hereby amended by adding after paragraph 6 of Section 450 the following:

7. As a member of a rifle, gun or pistol club, organized for the promotion of rifle, gun or pistol practice, a certified copy of whose constitution and by-laws has been approved by the Chief Executive of the Canal Zone and filed with the Collector of Revenues, when going to and from a target range and when engaged in target practice at a target range. For the purposes of this section certificates of membership in such rifle, gun or pistol club shall be issued under regulations approved by the Chief Executive of the Canal Zone.

And section 456 be and the same is hereby amended as follows:

The license fees for permits issued by the Treasurer under the provisions of this Title shall be as follows: For every permit issued to carry a firearm abroad, five dollars ($5); for every permit authorizing an overseer or watchman engaged by a private employer, ten dollars ($10); for each watchman or overseer so authorized to carry a firearm; for each hunting permit, five dollars ($5); provided that no charge shall be made for hunting permits issued to enlisted men of the Marine Corps stationed on the Isthmus of Panama. The Treasurer shall keep a record of all licenses issued by him, with the name and residence of the persons to whom they are issued, and the date and serial number thereof.

J. M. DICKINSON,
Secretary of War.

WAR DEPARTMENT,
Washington, D. C., *December 1, 1909.*

Culebra Trap Shooting Club.

THE CANAL RECORD:

We have recently organized a trap shooting club at Culebra known as the Culebra Gun Club and the following officers have been elected: Lieut.-Col. C. A. Devol, president; F. R. Woodman, vice-president; W. S. Holstead, secretary and treasurer, and Frank Roberts, field captain. The membership of the club numbers forty active members and we have had a clubhouse, shooting platform and shelter for the traps built, have received from the States our traps, shells and blue rock targets, and are now in full blast. This will no doubt be of interest to several employes along the line and they are all cordially invited to join. Particulars about membership fees, monthly dues, etc., will be cheerfully furnished by the secretary and treasurer of the club. It is our intention to hold shooting tournaments in the near future to which the public will be cordially invited. W. S. HOLSTEAD.

Culebra, C. Z., December 20, 1909.

Hostling and Repair of Locomotives.

A committee has been appointed to consider whether a more economical or effective system of hostling and repairing locomotives, used in Gatun and Colon and vicinity by the Atlantic Division and Panama railroad, can be devised than that at present in use. The locomotives used by the Atlantic Division are now hostled and given running repairs at Gatun, while the heavy repairs are made at Gorgona shops. The Panama railroad hostles and repairs all its locomotives at its shops in Cristobal. Among other phases of the question the committee will consider (1) the concentration of all general and heavy repairs for Commission and Panama railroad locomotives at Gorgona; (2) the transfer of light repairing of locomotives used by the Atlantic Division to the Cristobal shops in order to eliminate the long run from Gatun to Gorgona; (3) the transfer of such running repair work and hostling as may be advisable from Gatun to Cristobal. The committee is directed to consider the whole subject from the viewpoint of the best interests of the Commission and the Panama railroad as a whole, and not from that of any single part of the work, with the end that closer cooperation in the Canal and railroad work may be brought about.

Free Transportation and Resignation.

THE CANAL RECORD:

After two or more years service, is an employe entitled to free transportation besides pay, less one week, when he enters upon his final leave? That is, provided he tenders his resignation on the Isthmus effective at expiration of said leave, and was originally appointed from the States. EMPLOYE.

Gorgona, November 18, 1909.

An employe appointed in the United States, who resigns on the Isthmus after two years' continuous service, is entitled to free transportation. An employe going on leave of absence is never allowed free transportation, even though he may have served two years and it may be his intention to resign at the expiration of his leave. An employe appointed in the United States, who had served two years, and had taken leave on the Isthmus, if he resigned at the expiration of such leave, would be entitled to free transportation.

PERSONAL.

Mr. H. J. Slifer assumed his duties as General Manager of the Chicago and Great Western Railroad on December 1, with headquarters in Chicago.

Capt. R. E. Noble returned from the States on the Cristobal arriving at Cristobal on December 15.

Spanish War Veterans.

THE CANAL RECORD:

A movement is on foot to establish a Camp of National Spanish War Veterans in the Canal Zone, for the purpose of strengthening the spirit of fraternity engendered amongst those who served honorably in the military or naval service of the United States during the war with Spain, or in the insurrection in the Philippines, or in the Boxer campaign, to promote the spirit of loyalty and patriotism. All persons who are eligible for membership and are interested, will please communicate with Mr. Charles C. Cameron, Quartermaster's Department, Culebra.

Yours truly,
CHAS. C. CAMERON.

Culebra, C. Z., December 17, 1909.

Steam Shovel Accident.

While steam shovel No. 230 was being moved from one cut to another, in the Canal prism at the foot of Gold Hill, on Saturday forenoon, December 18, it struck a soft place in the track bed, sunk about two feet, and then turned over. In falling, the shovel caught David Thomas, check No. 20210, a Barbadian, killing him almost instantly.

Life Insurance in the Canal Zone.

In the article under the above head line, published in last week's issue of THE CANAL RECORD, it was stated "that a deposit of $10 shall be made with the Collector of Revenues," by life, fire, and other indemnity insurance companies desiring to transact business in the Canal Zone. The amount of the deposit should have been stated as $10,000, instead of $10.

Memorial Resolutions.

Resolutions of respect and regret were passed by the Las Cascadas Masonic Club at a meeting held on November 28 on the death of D. Y. Walts, formerly a member of the club, but recently living in Pennsylvania.

Resolutions of Sympathy.

At a special meeting of the I. A. of M., December 6, 1909, the following resolutions were adopted:

WHEREAS, It has pleased the Almighty God to take from our midst our friend and brother, George Henuigh, who was drowned while in the act of saving his sister; be it

Resolved, by this lodge of Machinists, No. 699, that we extend to the family our sympathy in their hour of bereavement; and be it further

Resolved, That our charter be draped for a period of six months; that a copy of these resolutions be sent to the family of the deceased; a copy be sent to the *Machinists Monthly Journal*; a copy be spread upon the minutes of this ledger of the I. A. of M., and a copy be published in THE CANAL RECORD.

CRAWFORD MOORE, JOHN L. MCEWAN, HARRY C. RAGSDALE.

CANAL WORK IN NOVEMBER.

Monthly Report of the Chairman to the Secretary of War.

CULEBRA, C. Z., December 17, 1909.

The Honorable the Secretary of War,
Washington, D. C.

Sir—I have the honor to submit the following report of operations on the Isthmus for the month of November, 1909:

Department of Construction and Engineering.

The following table summarizes the principal items of construction work accomplished by the Atlantic, Central and Pacific Divisions during the month:

Item.	Unit.	Atlantic.	Central.	Pacific.	Total.
Work excavation, dry	Cubic yards	105,461	1,164,411	38,851	1,308,723
Work excavation, wet	Cubic yards	457,889	....	636,628	1,094,517
Total work excavation	Cubic yards	563,350	1,164,411	675,479	2,403,240
Plant excavation, dry	Cubic yards	....	....	49,912	49,912
Plant excavation, wet	Cubic yards	....	....	5,000	5,000
Total plant excavation	Cubic yards	....	....	54,912	54,912
Total Canal excavation	Cubic yards	563,350	1,164,411	730,391	2,458,152
Material placed in dams	Cubic yards	260,893	....	27,618	288,511
Concrete placed	Cubic yards	31,363	51	10,296	41,710
Explosives used	Tons (Gross)	38.33	194.04	21.65	254.02
Rock drilling	Feet	35,443	298,681	47,205	381,329
Track removed	Miles	....	11.4	....	11.4
New track laid	Miles	2.99	13.3	2.24	18.53
Rock crushed	Cubic yards	25,834	6,508.5	7,505	39,847.5
Cement used	Barrels	32,427	69.25	10,602	43,098.25
New roads built	Miles	....	....	....	....
Water mains laid	Feet	8,426	1,222	1,032	10,680
Sewers laid	Feet	980	539	502	2,021
New drains and ditches dug	Feet	2,900	380	3,860	7,140
Average daily force	....	6,632	8,868	4,277	19,777
Rainfall, average	Inches	41.10	21.13	20.38	28.50

Atlantic Division.

GATUN LOCKS.

Excavation—Excavation was continued during the month in all three chambers, and in a portion of the locks south of the emergency dam. The excavation was greatly impeded by heavy rains and by high water.

Receiving and Issuing Material—The receipts of cement were satisfactorily handled, but the receipts of stone and sand from Porto Bello and Nombre de Dios were interfered with to some extent by high water. Preparations were made and work commenced on the extension of Dock 13 which will enable stone and sand to be unloaded at that point as well as at Mindi and Gatun.

Concrete Mixing Plant—The main concrete mixing plant was kept in operation, though breakages in the mixers were frequent. The construction of mixing plant No. 2 was 95 per cent completed at the end of the month.

Industrial Road—This road was operated satisfactorily.

Cableways—There was decided improvement in the operation of the unloading cableways during the month, and a total of approximately 55,000 cubic yards of material was unloaded and reclaimed. The lock cableways were operated satisfactorily. Repairs on the head tower of cableway No. 2 were completed and the cableway put in operation.

Concrete Work—The laying of concrete in the forebay and in the upper lock was continued during the month, notwithstanding the heavy rains. The work on the tower forms was delayed, as the contractor was unwilling to work during the rain.

Power Plant—The power plant was operated successfully during the month.

GATUN DAM.

Construction during the month increased the total fill by 249,336 cubic yards, making the total at the end of the month 5,029,603 cubic yards.

Hydraulic Fill—Allowing 10 per cent for ordinary loss and 187,882 cubic yards of soft material displaced and run off through drain pipes during October and November, the hydraulic fill in the dam was increased by 122,325 cubic yards, making the total at the end of the month 1,916,819 cubic yards.

Enrockments—The material received from Bas Obispo, Buena Vista, Bohio, the locks, Mindi and the Spillway, amounting to 127,011 cubic yards, was placed on the north and south toes of the dam. The total dry fill at the close of the month was 3,112,246 cubic yards. Bas Obispo rock was placed in storage at New Gatun to the amount of 21,632 cubic yards, increasing the total to 162,755 cubic yards, 25 per cent being allowed for swell.

Trestles—A trestle connecting Spillway Hill with the south toe dump was extended during the month a distance of 244 feet; and 84 linear feet of trestle were built on levee line across the Chagres River.

GATUN SPILLWAY.

Excavation—Excavation at the head of the Spillway was continued. The total excavation at the close of the month was 1,332,136 cubic yards. No work was practicable after November 18 on account of the high water flowing through the Spillway.

Concrete—Work was continued on the side walls and floor of the Spillway. The amount of concrete placed was 831 cubic yards, making the total at the end of the month 50,378 cubic yards. On account of flood water, concreting became impracticable after November 12th; 27 cubic yards of concrete were used for foundations for relay pumps.

HARBOR AND CHANNEL SECTION.

Dry Excavation Below Sea Level at Mindi—During the month, 3,024 cubic yards of earth and 38,985 cubic yards of rock were removed from the prism. Water in the pit stopped the work of steam shovel No. 251 on November 11, and excavation was entirely suspended November 20, when the cut was flooded.

Dredging from the Ocean to Mindi—Four dredges removed from the prism 409,512 cubic yards of earth and 48,377 cubic yards of rock during the month. In addition, the dredge *Mindi* removed 29,656 cubic yards of earth and 3,850 cubic yards of rock from in front of Pier No. 11. On November 30th, 40 feet of water could be carried from 0 to Mile 2 plus 3,000 feet; 30 feet to Mile 3 plus 5,000 feet; 20 feet to Mile 4 plus 1,700 feet; and 10 feet to Mile 5 plus 400 feet, the end of the cut.

PORTO BELLO.

A large amount of mechanical and repair work was performed. During the month 39,588 cubic yards of rock were loaded into cars for crushers, and 10,400 cubic yards of earth were removed hydraulically from the quarry. During the month 25,834 cubic yards of crushed rock were produced. Gin pole was placed for the erection of mast for the wireless telegraph station, and the concrete footing for mast was placed. Excavation for guy anchors was 40 per cent completed.

NOMBRE DE DIOS.

During the month the dredge *Nombre* was righted, raised, pumped and side dock placed under hill where the holes in the hull were located. The work of repairing the holes was 80 per cent completed. The dredge *Chagres* and clam-shell dredge *No. 3* assisted in this work. During the month locomotive cranes dug 6,350 cubic yards of sand, and of this amount 5,981.99 cubic yards were shipped to Cristobal in ten barges.

MUNICIPAL ENGINEERING AND BUILDING CONSTRUCTION.

Building and municipal work were satisfactorily continued during the month.

Central Division.

During the month of November the total amount of material excavated in the Central Division was 1,164,411 cubic yards, of which 196,165 cubic yards were classified as earth and 968,246 cubic yards as rock. Of this quantity, 1,163,700 cubic yards were removed by steam shovels and 711 cubic yards by hand, all of which was taken from the Canal prism.

The daily average number of steam shovels at work during the month was 41.75, and the total number of shovel days was 1,002, as compared with 47.23 shovels at work during the month of October, with 1,228 shovel days.

The number of shovel days actually lost in each district on account of floods and slides caused by the unusually heavy rainfall were as follows:

Tabernilla	35
Bas Obispo	52
Empire	7
Culebra	26
Total	120

For comparison with the work done by steam shovels during the corresponding month of the previous year, the following table has been prepared:

Period.	Excavated by shovels.	Classification of material.		Av. No. of shovels at work.	W'kg days.	Av. yards per shovel day.
		Rock.	Earth.			
	cu. yds.	*cu. yds.*	*cu. yds.*			*cu yds.*
1908: Nov.	1,352,266	927,994	424,272	50.91	23	1,154.8
1909: Nov.	1,163,700	967,891	195,809	41.75	24	1,161.3

Rainfall at Empire: 1908, 4.46 ins.: 1909, 21.05 ins.

The above table shows that the average output per shovel day was over one-half of 1 per cent greater in November, 1909, than in the corresponding month of the previous year.

During the month 177,381 cubic yards of material excavated from the prism were transported to the relocation of the Panama railroad between Caimito and Gamboa and dumped in the embankment for the roadbed, the total at the close of the month for this purpose being 2,293,215 cubic yards.

During the month 13,200 cubic yards of earth from Buena Vista and 28,900 cubic yards of rock from Bas Obispo were transported to Gatun for use in the construction of the dam. At the close of the month 166,600 cubic yards of earth and 585,888 cubic yards of rock had been transported for this purpose.

Slides on the east bank of the Canal south of Gold Hill and on the west side of the Canal north of Contractor's Hill and opposite Culebra, carried away all the tracks in the vicinity out to the center line of the Canal.

The daily average number of laborers at work was 7,832, while the daily average number of gold men working was 1,036.

Floods in the Chagres River and unusually heavy rainfall, averaging 25.22 inches for the entire Division, seriously interfered with the work as a whole.

Pacific Division.

DISTRICT NO. 1—LOCKS AND DAMS.

The total excavation during the month amounted to 97,600 cubic yards. No material was added to the prism of the west dam during the month.

At Miraflores, 19,665 cubic yards of dry filling were added to the toe of the west dam, increasing the total to 459,412 cubic yards; and 7,953 cubic yards of hydraulic filling were added to the core of the west dam, increasing the total to 138,587 cubic yards; and 8,823 cubic yards of dry filling were placed in backfill, increasing the total to 38,778 cubic yards.

At Pedro Miguel, work in all lines made moderate progress. The work of excavating was retarded on account of the excessive rainfall and the shortage of cars. During the month work was continued on the chamber crane commenced in October. The principal part of the material was received for the two berm cranes, and preparations for their erection begun.

At the power house one unit was put in operation. The installation of the traveling crane was completed. The two remaining generators were erected, and considerable progress was made on the wiring. Work on all transmission power lines was continued.

Regular operations were continued at Miraflores, and, in addition, the work of constructing track to the proposed site of the hydraulic pumping station was commenced.

At Ancon quarry, the work of stripping in the quarry was continued. Practically all the material from the slide occurring in October was removed, and general preparations for rebuilding the tracks effected.

DISTRICT NO. 2—DREDGING.

Five dredges were in operation during the month, the amount of material excavated being shown in the following table:

Dredge	Type	Cubic Yards.		Remarks.
		Work.	Plant.	
Culebra	Suction	329,843	5,000	Scow measurement
Badger.	Ladder	84,862	....	Place measurement
Marmot	Ladder	100,869	....	Place measurement
Mole...	Ladder	66,719	....	Place measurement
C'denas	Dipper.	45,498	....	Place measurement
Total.	....	627,791	5,000	

The work of clearing between Corozal and Balboa was continued. An area of 83,850 square feet was cleared during the month, and an area of 27,500 square feet was grubbed. The gangs were engaged during the greater part of the time in clearing, excavating and otherwise preparing site for pumping plant opposite Corozal, 130,150 square feet being cleared for this purpose.

A party was engaged in drilling a well on Culebra Island during the entire month. Much trouble was experienced from the extremely hard rock and boulders encountered.

DISTRICT NO. 3—BUILDING AND MUNICIPAL WORK.

Building and municipal work was continued during the month. The Ancon pumping and steam plant and the Rio Grande rock crusher were successfully operated. Work on municipal improvements in Panama was satisfactorily continued.

Relocation of Panama Railroad.

During the month, 168,369 cubic yards of material were excavated, making the total excavation at the close of the month 2,327,604 cubic yards, and 202,570 cubic yards of material were placed in embankment, making the total at the close of the month 6,415,333 cubic yards.

During the month, 2,078 linear feet of temporary trestle were driven, and numerous small culverts were completed; 7,232 linear feet of permanent track were laid, making the total at the close of the month 139,882 linear feet.

The force of laborers during the month averaged 2,263 men.

Quartermaster's Department.

During the month, 82 were employed on the gold roll in the United States, and 138 on the Isthmus. The total additions to the gold force were 222, and the total separations 209, making the net additions 13. On November 24, the silver force was 1,397 less than on the same date the previous month. Of this diminution, 223 were European laborers.

There was ordered from the United States material estimated to cost $362,460.40, of which amount $145,864.41 was on annual contracts. The value of material purchased on the Isthmus was $162,923.49, the largest items being oil, $45,212.97, and coal, $112,131.86.

On December 1, there were 86 applications for married quarters on the No. 1 list, of which 36 were applications for transfers from employes already occupying married quarters, so that the number of applications on the No. 1 list from those unsupplied with quarters was 50. There were 413 applications on the No. 2 list. The greatest congestion exists at Gatun, where there are altogether 133 applications. Of these applicants, 50 are occupying, or have been assigned to, temporary quarters at other stations on the line, principally at Culebra, Empire and Gorgona.

Subsistence Department.

The operation of the Tivoli Hotel during the month showed a loss of $167.77. There was a loss of $3,671.75 on the operation of the line hotels, and a profit was made on the operation of the mess halls and kitchens. The net operations for the month showed a loss of $2,153.02.

Department of Civil Administration.

COURTS.

The Supreme Court of the Canal Zone disposed of two civil cases, and in the circuit courts 9 civil and 21 criminal cases, and in the district courts 93 civil and 453 criminal cases, were disposed of.

DIVISION OF POSTS, CUSTOMS AND REVENUES.

The net revenues of the Canal Zone in November were $16,414.84. The collections of the Division of Posts, Customs and Revenues amounted to $15,888.29. Collections on account of court fines, costs and fees were $2,792.15. Money order sales during the month amounted to $442,295.31, of which $344,722.51 was payable in the United States, and foreign countries other than Martinique, and $373.50 in Martinique.

Twenty-one vessels entered at and 19 vessels cleared from the port of Ancon, and 19 vessels entered at and 16 vessels cleared from the port of Cristobal.

DIVISION OF POLICE AND PRISONS.

The number of arrests during the month was 464, as compared with 606 in October. There were 102 prisoners confined in the district jails at the close of the month. Eight convicts were committed to the penitentiary during the month, 9 were discharged at the expiration of their sentences, and on November 30th, 112 convicts were confined in the the penitentiary. The cost of guarding and subsisting the convicts was $2,722.94, and the value of the work performed by them was $1,251.60. The labor of the prisoners was utilized in continuing the construction of the Empire-Paraiso road, and in grading the streets of West Culebra.

DIVISION OF FIRE PROTECTION.

Four fires were reported during the month. The estimated value of Commission and railroad property involved was $3,635, and the damage was $80.

DIVISION OF PUBLIC WORKS.

The regular inspection and maintenance work of this division was performed during the month. In the city of Panama the average daily consumption of water was 966,600 gallons, and in the city of Colon 643,868 gallons.

DIVISION OF SCHOOLS.

The total enrollment in the white schools for November was 765, and the average daily attendance 644.4, or 84.2 per cent of the enrollment, and in the colored schools the total enrollment was 1,061 and the average daily attendance 509.9, or 48 per cent of the enrollment. The low attendance for the month was caused by the heavy rains. On November 30, there were 35 white and 21 colored teachers employed in this division.

Department of Sanitation.

The health conditions in general were satisfactory during the month. While the total death rate was larger than for October, it was small as compared with other tropical communities. The death rate among employes was 15.27 per thousand, an unusually high rate. Out of 67 deaths from all causes, 22 were due to violence, 10 of which were due to railroad accidents.

No cases of yellow fever, bubonic plague or smallpox occurred on the Isthmus during the month. The fact that both plague and yellow fever still exist at Guayaquil causes some anxiety, in view of the possibility of their introduction.

Respectfully,

GEO. W. GOETHALS,
Chairman

Beta Theta Pi.

All members of the Beta Theta Pi Fraternity residing on the Isthmus are requested to forward their names and address to the undersigned. ERNEST E. LEE,
Secretary, Canal Zone Alumni Chapter.

Culebra, C. Z., December 20, 1909.

SOCIAL LIFE OF THE ZONE.

Women's Clubs.

The executive board of the Canal Zone Federation of Women's Clubs held a meeting at Cristobal on December 17. The Federation convention will be held at Cristobal on Saturday, January 8. Two sessions have been arranged for, a business meeting in the morning, beginning at 9.30 o'clock, and a social session at 2 o'clock in the afternoon. Delegates and alternates should take the train leaving Panama at 6.35 a. m., and guests of the Federation may take the train leaving at 10.45 a. m. Lunch will be served to the club women at Commission employes' rates at the Washington Hotel at 12.30 p. m.

The meeting of the Gorgona Woman's Club was held in the Commission clubhouse on Thursday afternoon, December 16, Mrs. Thomas E. Brown, jr. being the guest and speaker. There was a business meeting, following which Mrs. Brown spoke on the influence of women's clubs on the individual member and on the community. An open discussion followed. The schedule of meetings for January is as follows: Home department at the residence of the president, January 6; art department at the home of Mrs. E. S. Calvit, January 13; business meeting at the Commission clubhouse, January 20.

The Christmas bazaar held by the home department of the Cristobal Woman's Club on the afternoon and evening of December 15 was largely attended. The proceeds of the sale will be donated to the various churches to help provide a Christmas celebration for the children of Colon and Cristobal. It is estimated that over $200 was received.

The Pedro Miguel Woman's Club held a sale in the clubroom on Monday afternoon, December 13. The proceeds amounted to $20. The social meeting of the club was held at the home of Mrs. Ernest Bitely on December 15.

The bazaar and dance held by the Empire Woman's club on December 15 drew a large number of people from Gorgona and Las Cascadas in addition to residents of Empire. A bachelors' supper was served at 5 o'clock.

The Woman's Club held a social in the Y. M. C. A. hall at Gorgona last Friday evening.

Miscellaneous Events.

The Sunshine Club of Gatun held an election of officers on December 2. Mrs. H. A. Porter was reelected president and Mrs. E. C. Keator secretary and treasurer. In addition to these officers, who will serve three months, a board of managers was appointed, composed of Mrs. W. E. Farrow, Mrs. P. H. Underhill and Mrs. J. H. LaRowe. The board has announced a bachelors' sale, which will be held early in January. Laundry bags, pipe racks, and carpenters' aprons will be among the useful articles provided. There will also be a booth for the sale of cakes, pies, and candies. The proceeds of the recent apron sale and baby show held at the Commission chapel were $53. The money will be forwarded to the International Sunshine Society with the request that $25 be appropriated toward the home for blind babies in New York.

The daughters of Rebekah of Gorgona held an election of officers on Saturday evening, December 18. Beginning in February, the meetings of the order will be held on the first and third Saturday evenings of each month.

The Pacific Social Club of Paraiso will have a dance on New Year's Eve in the lodge hall. The Monday evening dancing classes of this club are well attended.

The Culebra Bachelor's Club held a dance at the clubhouse on Saturday, December 11. On December 18, the Culebra Dancing Club held a dance. The two clubs will combine in a dance on New Year's Eve.

The Colon Club will give a dance at the Lincoln House on Christmas Eve, December 24.

Church Work.

The Rev. Aquila Lucas, international secretary of Sunday school work in the West Indies, and Central and South America, will arrive on the Isthmus from Jamaica on December 27, for the purpose of visiting the Sunday schools federated in the Isthmian Sunday School Association. From his arrival in Colon to January 4, Mr. Lucas will devote his time to the work of the Cristobal and Gatun Sunday schools. Following this, the itinerary as arranged is: Pedro Miguel, January 5; Culebra, January 6; Las Cascadas, January 7; Bas Obispo, January 8; Gorgona, January 9; Tabernilla, January 10; Paraiso, January 11; Panama, Methodist Episcopal Sunday school, January 12; Corozal, January 13. January 14 and 15 will be spent in visiting the Sunday schools for colored children. A rally of the federated Sunday schools will be held in Empire on Sunday, January 16, at 2 p.m. A special train will be run from Cristobal for the accommodation of those wishing to attend.

The Culebra Sunday school has recently been reorganized. The lessons for the primary and younger children are adapted from the International Lesson leaflet to suit the requirements of the pupils. A cradle roll and home department are features of the work. The school will hold a Christmas entertainment in the chapel on Sunday evening, December 26.

Services will be held in St. Luke's church, Ancon, on Christmas morning at 10 o'clock. There will be special music. The offering will be for the organ fund. The Sunday school festival will be held in Ancon hall on Monday evening, December 27, at 8 o'clock.

On Christmas Day in the Commission chapel at Culebra, there will be a celebration of the holy communion at 7.00 a. m , Archdeacon H. B. Bryan officiating. On the Sunday following, there will be the regular morning prayer and sermon at 11.00 a.m.

Rev. A. A. Nellis of Auburn, N. Y., has been appointed Commission chaplain at Culebra, and is expected to arrive on the Isthmus in January to take up his duties.

Anti-Cigarette League.

The Anti-Cigarette League, organized in Gorgona some months ago, is divided into two sections. Section 1, composed of small boys, is under the direction of Mrs. J. B. March. Meetings are held at the home of the director on Friday evenings. A prize has been offered for the best composition on the work of the league. A Christmas party will be held at the home of Mrs. March next week for the members. Section 2 comprises boys from 10 to 16 years old, and is under the direction of Mrs. A. L. Hackenberg. There are ten members. The meetings are held at the home of the director on the first and third Wednesdays in each month. Lectures and informal speeches are features. Original papers by the members are read. Mr. George Smith spoke at a recent meeting. A social meeting follows the regular business. On Wednesday evening, December 29, the league will hold a social meeting, and parents of the members have been invited. Mr. Edward Cassidy will speak on "Indian Wars." The section has purchased a number of books which will be in circulation in January.

Annual Picnic for West Indians.

The annual picnic for West Indians of Colon and other points along the line of the Panama railroad will be held at the Empire ball park on New Year's Day. There will be a cricket match and athletic field sports and contests, with prizes. A band will play, and there will be refreshments. The picnic will be held under the auspices of Christ Church, Colon.

District Deputy Grand Sire, I. O. O. F.

Mr. B. F. Sisson of Gatun, C. Z., was reappointed District Deputy Grand Sire of the Independent Order of Odd Fellows for the Isthmus of Panama, at the eighty-fifth annual communication of the Sovereign Grand Lodge, held at Seattle, on September 20 to 25, 1909. He was first appointed in 1908, and has held the office ever since.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Gatun, C. Z., on Sunday, December 19, 1909, at 2 p. m. The program follows:

1 March—*Chicaga Tribune*...............Chambers
2 Selection—*The Three Twins*.............Hoschna
3 *Simple Aveu*.............................Thome
4 { *a* Baru Dance—*Slack of Fun*.............Rolfe
  { *b* Rag Novellette—*Dope*...... ....Powell
5 Overture—*Fest*...........................Latann
6 Medley of Popular Songs..................Lampe
Introducing "It Looks Like a Big Night To-night," "On, Harvest Moon," "When I Marry You," "I Want Some One to Call Me Dearie," "I Used to Be Afraid to Go Home in the Dark," "Golden Arrow," "Dear Heart," and "Honeyland."
7 Waltz—*España*.........................Waldteufel
8 { *a Pigeon Wing Rag*...................Johnson
  { *b* Intermezzo—*Cavalleria Rusticana*.Mascagni
9 Patrol—*The Crack Regiment*...............Tobani
10 March—*Santiago Flynn*....................Morse

CHAS. E. JENNINGS, *Musical Director*.

A concert will be given at Empire, on Sunday, January 2.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., December 22, 1909.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Barnett, J. C.
Bernard, Harry
Brunson, C. A.
Coit, Charles
Conner, F. W. (3)
Days, J. M.
Diestel, Mr. and Mrs. Otto
Fahr, C. W.
Ford, Wm. H.
Gray, John (2d class)
Hamilton, C. J.
Harrison, Wm. T. (2)
Harrison, Miss Vera (2d class.)
Jones, O. C.
Kennedy, E. Jeny
Klosson, Frank H.
La Fountain, Frank
Lechler, Anthony I.
Louis, F. E. (2)
Lovell, Preston
Maehair, A. C.
Major, Eva M. C.
Martin, Ed. M.
Matthews, John P.
McCally, Homer W.
McCown, Mrs. W. H.
Munchow, E. U.
Norton, Miss M. (2)
Oliver, Lando
Oneal, Eddie
Perry, Edward W.
Teavne, R. C.
Thorne, Mrs. C. S.
Wheeler, C. C.
Wilson, Delaplane
Woodsum, D. M.

Launch Service to Taboga.

The steamer *Sanidad* leaves the dredge landing at Balboa at 9 o'clock Tuesday, Thursday and Saturday mornings. On the return trip it arrives at Balboa about 4.30 p. m. in time to make connections for the 5.30 train at Panama.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

The chess tournament for the Baxley medal closed last week. Mr. Vogel was the winner. The final score is as follows:

		Won.	*Lost.*
Vogel		8	0
Wilson		4	2
Dubois		4½	3½
Stearns	Team	4	4
Herrington		4	4
Warner		3½	3½
McCarney		2	5
Morgan		1	0
Marshall		1	0

The moving picture show on Friday night was good and may be repeated.

Preparations are being made for an individual pool tournament which will be started in the near future.

EMPIRE.

The local indoor baseball team was defeated by the Culebra team by a score of 15 to 14, on Tuesday evening, December 14.

Señor Romano gave a pleasing moving picture entertainment on Thursday evening, December 16.

The presentation of medals to the winners of the Isthmian bowling tournament for 1909 took place on Wednesday evening, December 22, at 8.30 o'clock.

GORGONA.

The moving picture entertainment given last Monday night proved very interesting and enjoyable.

Mr. Boyer won the recent chess tournament with an average percentage of 1000.

The Gorgona clubhouse will be appropriately decorated during the holiday season. The repainting of the building both inside and out, is now completed. With the new decorations, pictures, pennants, etc., it bids fair to be more attractive than ever. The reading room will be located on the first floor for a time at least, as this seems to be the wish of a majority of the members.

The standing of the five highest teams in the "Rag Time" bowling tournament at present is as follows:

Durand and Otis	1,070
Ridge and Buchanan	1,059
Roper and Durand	1,059
Sexton and King	1,045
Cram and King	1,044

Mr. Harvey McConaughey recently bowled three consecutive games with the following scores: 211, 204 and 179. This makes a total of 594 for three games.

CRISTOBAL.

The indoor baseball game played last Saturday night with Empire resulted in a victory for the Empire team, the score being 35 to 17.

A chess club has recently been organized and has a membership of eighteen. Mr. S. J. Davis was elected president, and Mr. Charles R. Stoddard, secretary. The club will hold a general meeting next Tuesday night.

The boys' department is running a bowling tournament in competition for prizes. Two games of the series have already been rolled.

Christmas at the Clubhouses.

Christmas exercises will be held Friday night of this week in the Culebra Y. M. C. A. The committee in charge begs as a special request that any child in Culebra overlooked or omitted, leave their name with Mr. Warner or Mr. Kramer at the Y. M. C. A. The committee extends a special invitation to every one to be present and enjoy an old-fashioned Santa Claus entertainment.

The children of Gorgona will give a Christmas cantata entitled "Santa Claus' Reception," in the Y. M. C. A. hall on Friday evening, December 24. Everybody in Gorgona is cordially invited. All children will be presented with a Christmas stocking.

A Christmas entertainment will be held at the Empire clubhouse on Friday evening, December 24. The program will be given entirely by the children, after which the ladies' committee will serve refreshments.

A community Christmas entertainment will be held in the Y. M. C. A. hall at Cristobal on Christmas Eve. An interesting program is being arranged for, and Santa Claus will visit all the children.

Trip to Pearl Islands.

The Y. M. C. As. of the Canal Zone are planning an excursion to Pearl Islands for January 1, 1910. Arrangements have been made for a special train to leave Colon making stops at the clubhouse towns and connecting with the Pacific Steam Navigation Company's steamer *Manavi*, at Balboa, at 7.30 a. m. The steamship company agrees to land the excursionists at one of the Islands and a few hours will be allowed for sight-seeing. A special train will be waiting for the boat upon its return from the Islands to convey the excursionists back across the Isthmus. Further details regarding the trip may be secured from the Y. M. C. A. secretaries.

OFFICIAL CIRCULARS.

Harbor Master.

ANCON, C. Z., December 17, 1909.

CIRCULAR NO. 91:

Under the provisions of Section 9 of the Executive Order issued by the Governor of the Canal Zone under date of December 8, 1905, providing for the appointment of pilots for the ports of the Canal Zone, Isthmus of Panama, prescribing their duties, etc., Mr J. A. Smith is hereby appointed Harbor Master for the harbors of the Canal Zone, vice Mr. Hiram J. Slifer, resigned.

H. H. ROUSSEAU,
Acting Head of Department of Civil Administration.

Applications for Increase of Force or Pay.

CULEBRA, C. Z., December 18, 1909.

HEADS OF DEPARTMENTS AND DIVISIONS:

Beginning Monday, December 27, applications for increase of force or pay, on Form 160 C. E., must be submitted to this office in triplicate.

By direction of the Chairman.

M. B. DEPUTRON, *Assistant to the Chairman.*

Baggage on Porto Bello and Nombre de Dios Tugs.

CULEBRA, C. Z., December 14, 1909.

TO WHOM CONCERNED:

Considerable difficulty has been experienced with the baggage of employes going to and from Porto Bello and Nombre de Dios because frequently such baggage bears no identifying marks. Employes who have baggage to be transported between these points should see that it is properly marked with name of owner and destination. Tags for this purpose may be secured from the District Quartermaster at Cristobal or Porto Bello, or from the office on Dock No. 13.

C. A. DEVOL, *Chief Quartermaster.*

Rainfall, December 1 to 18, 1909, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Division—	*Ins.*		*Ins.*
Cristobal	3 56	6	21.87
Brazos Brook	4.70	6	19.89
Gatun	4.16	6	17.40
Central Division—			
Bohio	1.41	16	11 16
Tabernilla	1.66	13	6 67
San Pablo	1.50	13	5 37
Gorgona	1.08	10	5.73
Gamboa	1.40	13	5.36
Empire	.91	11	3 41
Camacho	.65	11	3.46
Culebra	1 10	11	4.20
Pacific Division—			
Rio Grande	1.25	11	4 56
Pedro Miguel	.89	11	4.10
Miraflores	1.58	12	5.00
Balboa	2.07	9	6.11
Ancon	2.15	9	6.98
Atlantic Coast—			
Porto Bello (to 5 p. m. Dec. 17)	7.13	7	29.48
Nombre de Dios	.....	....	......
Upper Chagres—			
El Vigia	2.63	12	8.08
Alhajuela	1.74	12	7.60

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ended midnight Saturday, December 18, 1909.

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft.	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Dec. 12	150.5	109.3	67.2	30.6	17.0	15.4
Monday, Dec. 13	138.2	101.1	63.6	30.8	17.6	15.9
Tuesday, Dec. 14	131.9	97.1	54.2	25.3	17.2	15.6
Wed'esday, Dec. 15	130.7	96.1	51.8	18.9	14.8	13.4
Thursday, Dec. 16	129.7	95.6	51.1	15.7	11.6	10.5
Friday, Dec. 17	129.6	95.4	50.6	13.1	9.0	7.6
Saturday, Dec. 18	128.9	94.9	50.4	11.5	6.7	6.0

BASEBALL.

Opening of Season in the Atlantic League—Isthmian League Games.

The baseball season in the Atlantic League opens on Christmas Day, with two seven-inning games at the new Colon park. The first game will be played between the Colon and Civil Administration teams, and the second, between the Panama railroad, and the Commissary and Subsistence teams. Sunday afternoon, December 26, a nine-inning game will be played between the Panama railroad and Colon teams. The hour of play on each date, will be 2.30 p. m.

ISTHMIAN LEAGUE.

RESULTS OF GAMES, DECEMBER 19.

At Empire—Ancon, 3; Empire, 2.
At Gorgona—Gorgona, 18; Marines, 0.

STANDING OF CLUBS.

	Won	*Lost*	*P. C.*		*Won*	*Lost*	*P. C.*
Ancon	2	0	1.000	Empire	1	3	.250
Gorgona	3	1	.777	Marines	0	3	.000

SCHEDULE FOR DECEMBER 25:

Gorgona at Ancon.
Marines at Empire.

The Ancon team defeated Empire, Sunday December 19, on the Empire grounds, and Gorgona won a one-sided game from the Marines. The scores follow:

Ancon.	AB.	R.	H.	PO.	A.	E.
Tinsley, ss	4	0	1	2	2	0
Farrar, rf	3	0	0	0	0	0
Drennan, lf	0	0	0	0	0	0
Poltrino, lf	3	0	0	0	0	0
Smith, 2b	3	0	1	3	4	0
Pearman, 3b	4	1	0	1	1	0
Nygren, 1b	3	1	0	11	0	0
Hunter, cf	4	0	1	3	0	0
Yingling, c	4	1	1	6	1	1
Lawler, p	3	0	0	0	2	0
To'al	31	3	4	*26	10	1

*Bryan out, bunted 3d strike.

Empire.	AB.	R.	H.	PO.	A.	E.
Bryan, ss	4	0	0	7	2	1
Moore, c	4	0	0	5	1	0
S. Fluharty, 2b	4	0	1	2	4	0
Bell, 1b	3	1	1	7	1	1
Christopher, rf	4	1	1	0	0	0
E. Fluharty, lf	4	0	0	2	0	0
McAuley, 3b	3	0	0	2	3	1
Murphy, cf	1	0	0	0	0	0
Herring, cf	2	0	0	1	0	0
Marshall, p	3	0	1	0	2	1
Total	32	2	4	*26	13	4

*Farrar out, hit by 3d strike.

Ancon	0	0	0	0	0	0	0	0	3—3
Empire	0	0	0	0	0	0	2	0	0—2

Earned runs—Ancon, 2; Empire, 1. Two base hits—Bell, Christopher, S. Fluharty. Home run—Yingling. Bases on balls—Off Lawler, 1; off Marshall, 4. Hit by pitcher—McAuley, Nygren. Struck out—By Lawler, 5; by Marshall, 3. Left on bases—Ancon, 6; Empire, 5. Stolen bases—Christopher, McAuley, Marshall, Tinsley. Double plays—S. Fluharty to Bryan; Moore to Bryan. Time—Two hours. Umpire—Irwin. Official scorer—D. G. Hayes.

Gorgona.	AB.	R.	H.	PO.	A.	E.
Dougberty, 2b	5	2	0	1	1	0
Magee, lf	4	3	1	4	0	0
Barney, rf, c	6	3	4	4	1	0
Wright, 1b	5	2	3	9	0	0
Herring, c, rf	4	2	3	4	4	0
Clements, cf	4	0	1	1	0	0
Ridge, ss	5	2	0	1	1	0
Emery, 3b	5	3	3	2	1	1
Case, p	2	1	2	0	1	0
Massen p	1	0	1	1	1	0
Total	41	18	18	27	10	1

Marines.	AB.	R.	H.	PO.	A.	E.
Hurrle, lf	4	0	1	3	0	0
Heinz, ss, 2b	4	0	0	1	2	0
Volman, 3b	3	0	0	3	0	1
Nichols, rf	4	0	0	0	0	1
Munsen, p	4	0	0	1	5	1
Cowens, 1b	3	0	1	6	0	2
Dayton, c	3	0	1	6	2	1
Jones, 2b, ss	3	0	1	2	2	1
Dorman, cf	1	0	0	0	0	1
Waltke, cf	2	0	0	2	1	1
Total	31	0	4	24	12	9

Gorgona	6	2	0	0	6	2	2	0	x—18
Marines	0	0	0	0	0	0	0	0	0—0

Earned runs—Gorgona, 6. Two base hits—Hurrle, Wright, Herring. Hits—Off Case, 2 in five innings; off Massen, 2 in three innings. Bases on balls—Off Munsen, 3. Struck out—By Case, 6; by Massen, 3; by Munsen, 6. Passed balls—Dayton, 2. First base on errors—Gorgona, 7; Marines, 1. Hit by pitcher—Volman, Magee. Time of game—One hour and fifty-five minutes. Umpire—Cooling. Official scorer—D. G. Hayes.

COMMISSARY DEPARTMENT.

Detached Commissary Coupons.

CRISTOBAL, C. Z., December 14, 1909.

CIRCULAR NO. 120:

In accordance with the rules, detached coupons from commissary books are of no value and if presented will be taken up and made void.

If coupons become accidentally detached, they should be sent to this office, together with book in which they belong, with letter of explanation and request for refund. Also, such communications should be forwarded under registered cover.

If detached coupons are presented in payment for goods purchased, they will be confiscated and no refund will then be made.

JOHN BURKE, *Manager.*

Approved:
EUGENE T. WILSON, *Subsistence Officer.*

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning December 18:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	27
Chops	per lb	29
Cutlets	per lb	29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	4
Soup	per lb	6
Stew	per lb	10
Corned	per lb., 12, 14,	16
Chuck roast	per lb	14
Pot roast	per lb	16
Rib-roast, second cut (not under 3½ pounds)	per lb	19
Rib-roast, first cut (not under 3 pounds)	per lb	21
Sirloin roast	per lb	22
Rump roast	per lb	22
Porterhouse roast	per lb	22
Steak, Chuck	per lb	15
Round	per lb	16
Rib	per lb	21
Sirloin	per lb	22
Porterhouse	per lb	22
Rump	per lb	22
Tenderloin	per lb	27

MISCELLANEOUS.

Livers—Beef	per lb	11½
Calf	each	65
Sausage—Pork	per lb	17
Bologna	per lb	17
Frankfurter	per lb	17
Leberwurst	per lb	17
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	30
Oysters	keg	90
Eggs, fresh	dozen	40

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, fatted	each	1.30
medium weight	each	90
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese	each	2.70

CURED AND PICKLED MEATS.

Hams, York Cut, Finnis and Fisher	per lb	30
Bacon—Breakfast, whole piece	per lb	27
Breakfast, sliced	per lb	29
Ham—Sugar-cured, sliced	per lb	§25
One-half, for boiling	per lb	§21
Westphalia	per lb	*36
Hocks	per lb	‡8
Sugar cured	per lb	20
Beef, salt, family	per lb	10
Pork, salt	per lb	15
Ham, boiled	per lb	28
Ox tongues	each	1.00
Pigs' feet	per lb	8
tongues	per lb	16

DAIRY PRODUCTS.

		Price.
Butter—Prints, prime quality	per lb	†47
Cheese—Roquefort	per lb	45
Cheese—Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	31
Edam	each	1.05
Camembert	per lb	28
Neufchatel	each	6
Gouda	per lb	34
Parmesan	bottle	20
French cheese in tins—Camembert, Brie, Neufchatel	1-lb tin	20
Milk, Briarcliff	bottle	**25
Butter	bottle	**15

VEGETABLES AND FRUITS.

Celery	per hd	5
Lettuce	per lb	10
Potatoes, white,	per lb	3½
sweet	per lb	2½
Onions	per lb	3
Squash, Hubbard	per lb	3
Yams	per lb	3½
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	4
Cucumbers	per lb	†15
Lemons	dozen	24
Limes	per 100	80
Cabbage	per lb	3
Cranberries	per lb	10
Apples,	per lb	5
Oranges	dozen	12
Grapefruit	each	4
Pineapples	each	18

*Indicates reduction from last list.
**Indicates 5 cents allowed for return of bottle.
†Indicates advance on last list.
‡Sold only from Commissaries; no orders taken for delivery.
§Sold only from Cold Storage and not from Commissaries.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending December 29, 1909 (75th meridian time):

DATE.	High.	Low.	High.	Low.
	A. M.	A. M.	P. M.	P. M.
Dec. 23	....	6.25	12.35	6.48
Dec. 24	12.58	7.24	1.38	7.48
Dec. 25	1.55	8.19	2.34	8.42
Dec. 26	2.48	9.10	3.25	9.33
Dec. 27	3.40	9.58	4.13	10.22
Dec. 28	4.26	10.45	4.58	11.10
Dec. 29	5.11	11.30	5.42	11.55

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal and Colon, during the week ending December 18, 1909, with supplies for the Isthmian Canal Commission:

Prinz Joachim, December 13, from New York, with 219 coils manila rope for stock.

Cristobal, December 15, from New York, with 11,000 barrels cement for Atlantic Division; 44,000 bags cement, 2 steel tanks, and 297 tons structural steel for Pacific Division, and 127 tons galvanized pipe for stock.

Panama, December 15, from New York, with 58 tons structural steel for handling plant, Pacific Division; 43 tons steel forms for filtration plant at Cocoli Lake, Pacific Division; 150 tons steel castings for locks at Gatun, Pedro Miguel and Miraflores; 304 steel axles, and 61 tons castings for car repairs; 36 bundles steel cable, and 19 reels steel cable for Atlantic Division; 139 steel plates, 4 tons sheet copper, 100 refrigerators, 5 tons sheet lead, 26 tons galvanized pipe, and 400 kegs wire nails for stock.

Turrialba, December 16, from New Orleans, with 37,500 pounds fire clay, 180 switch ties, and 5,928 feet ash and hickory lumber for stock; 15 tons cotton seed hulls for Ancon dairy; 271 cross ties for Atlantic Division; and 26,000 feet yellow pine lumber for Pacific Division.

Auction Sale of Wash Stands.

There will be sold at public auction to the highest bidder, for cash, at Mount Hope Depot, on Monday, December 27, 1909, at 3 o'clock p.m., the following described public property which is no longer required in the service: 312 wash stands, (more or less.) Sales will be made in such quantities as are desired by the bidder. A cash deposit of at least 25 per cent of the bid will be required from the successful bidder at the time of sale, and full payment will be necessary before the property is removed. Property not paid for in full and removed within 48 hours after the sale will be considered as abandoned by the bidder and the deposit forfeited. The Government reserves the right to reject any or all bids The above property may be seen and examined at Mount Hope Depot any week day between the hours of 8 and 11 a.m., and 1 and 5 p.m.

C. NIXON, *Depot Quartermaster.*

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Colon	P. R. R.	Tuesday	Dec. 21
Ancon	P. R. R.*		Dec. *
Advance	P. R. R.	Monday	Dec. 27

CRISTOBAL TO NEW YORK.

Cristobal	P. R. R.	Saturday	Dec. 25
Allianca	P. R. R.	Sunday	Dec. 26
Colon	P. R. R.	Sunday	Jan. 2
Advance	P. R. R.	Saturday	Jan. 8

*A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. The *Ancon* is due to leave New York about December 23. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

NEW YORK TO COLON.

Prinz Aug. Wilhelm	H.-A.	Saturday	Dec. 18
Magdalena	R.-M.	Saturday	Dec. 25
Prinz Joachim	H.-A.	Saturday	Jan. 1
Clyde	R.-M.	Saturday	Jan. 8
Prinz Aug. Wilhelm	H.-A.	Saturday	Jan. 15
Thames	R.-M.	Saturday	Jan. 22
Prinz Joachim	H.-A.	Saturday	Jan. 29
Atrato	R.-M.	Saturday	Feb. 5
Prinz Aug. Wilhelm	H.-A.	Saturday	Feb. 12
Tagus	R.-M.	Saturday	Feb. 19
Prinz Joachim	H.-A.	Saturday	Feb. 26
Oruba	R.-M.	Saturday	Mar. 5

COLON TO NEW YORK.

Clyde	R.-M.	Wednesday	Dec. 29
Prinz Aug. Wilhelm	H.-A.	Tuesday	Jan. 4
Thames	R.-M.	Wednesday	Jan. 12
Prinz Joachim	H.-A.	Tuesday	Jan. 18
Atrato	R.-M.	Wednesday	Jan. 26
Prinz Aug. Wilhelm	H.-A.	Tuesday	Feb. 1
Tagus	R.-M.	Wednesday	Feb. 9
Prinz Joachim	H.-A.	Tuesday	Feb. 15
Oruba	R.-M.	Wednesday	Feb. 23
Prinz Aug. Wilhelm	H.-A.	Tuesday	Mar. 1

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

NEW ORLEANS TO COLON.

Abangarez	U.F.C.	Saturday	Dec. 18
Atenas	U.F.C.	Saturday	Dec. 25
Turrialba	U.F.C.	Saturday	Jan. 1
Abangarez	U.F.C.	Saturday	Jan. 8
Atenas	U.F.C.	Saturday	Jan. 15
Turrialba	U.F.C.	Saturday	Jan. 22
Abangarez	U.F.C.	Saturday	Jan. 29

COLON TO NEW ORLEANS.

Abangarez	U.F.C.	Tuesday	Dec. 28
Atenas	U.F.C.	Tuesday	Jan. 4
Turrialba	U F.C.	Tuesday	Jan. 11
Abangarez	U.F.C.	Tuesday	Jan. 18
Atenas	U.F.C.	Tuesday	Jan. 25
Turrialba	U.F.C.	Tuesday	Feb. 1
Abangarez	U.F.C.	Tuesday	Feb. 8

COLON TO BARBADOS, CALLING AT TRINIDAD.

Magdalena	R.-M.	Tuesday	Jan. 4

A ship of the United Fruit Company's line sails from the dock at Colon, at 3 p. m., Tuesday of each week.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Barbadian* for New Orleans, via Kingston, Ja., on or about January 3.

The steamers *David* of the National Navigation Company, and the *Taboga* of the Pacific Steam Navigation Company, leave Panama, for David, province of Chiriqui, and intermediate points, the first and third weeks of each month.

The following vessels arrived at or departed from Balboa during the week ending December 18:

Arrivals—December 12, *Ecuador*, and yacht *Cavalier*, from Guayaquil; December 14, *Loa*, from south ports, and *San Juan*, from San Francisco; December 16, *Chiriqui*, from intermediate ports; December 17, *Quito*, from south ports.

Departures—December 14, yacht *Cavalier*, for Guayaquil, *Acapulco*, for San Francisco, and *Limari*, for south ports.

CANAL RECORD

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Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Relief Maps for Congress.

At the request of the Hon. Frank P. Flint, Chairman of the Senate Committee on Interoceanic Canals, and the Hon. James A. Tawney, Chairman of the House Committee on Appropriations, a relief map in plaster of the Canal Zone, and one of the work at Gatun, will be made for exhibition at the capitol in Washington. The map of the Zone is being made in Washington, but that of the Gatun Dam and Locks is in process of construction in the office of the Chairman at Culebra. The latter map will be made by pouring plaster over the map now on exhibition in the Chairman's office, thus procuring a negative. A positive cast will then be made from this negative and sent to Washington.

River and Rainfall Gagings.

The work of making gagings on the streams tributary to Miraflores Lake and those tributary to the Obispo Diversion has been begun by the Third Division of the Office of the Chief Engineer, and will be continued during the dry season. A few gagings were made last year on the Miraflores Lake streams, but the observations extended over only a short period. The only other gagings that have been made on streams tributary to the lake were made on the Pedro Miguel River in 1899-90 for the Walker Commission, and a few measurements on the Cocoli by the old Division of Meteorology and River Hydraulics, in the dry season of 1907-08. The principal streams discharging into this lake are the Cocoli, Rio Grande, Pedro Miguel, and Caimitillo rivers. It is expected that the best information on the relation of rainfall to run-off will be procured from the gagings on the Obispo Diversion and Pedro Miguel watersheds, because the drainage area of these streams has been measured.

Four automatic rain gages have been received from the Netherlands where the type has been tested by use in the waterways work of that kingdom. They are of the tipping bucket type and an autographic record of the rainfall is kept for two weeks without attention. One of the new gages has been installed at Culebra where its work will be compared with that of the automatic gages now in use, before the new ones are put in service. Those now used keep a record for one day only. It is proposed to install the new gages in remote localities where no records have been obtained—one in the southern portion of the Trinidad basin near the borders of the proposed Gatun Lake (elevation 85 feet), one on the Caño River above elevation 85, one in the basin of the Obispo Diversion, and one in the Pedro Miguel drainage basin, east of Culebra.

Improvements at Gorgona Shops.

A building for the storage of patterns will be erected at Gorgona shops. It will be 100 feet long, 42 feet wide, and two stories high, and, as far as possible, will be constructed of secondhand material. About 40,000 patterns are in the storage building now in use and the accommodations are not adequate for this number, while new patterns are being made each week. When the new building is completed the present pattern storage building will be converted into a brass foundry, and a storage room for foundry rigging. Recent orders for gray iron castings make it necessary to use the present foundry for iron work only. It is proposed to manufacture about 400,000 pounds of gray iron castings a month. To assist in this work a crane is to be constructed at the shops, after a design prepared there, which will handle a five-ton ladle. It will be operated by electricity, will have a span of about thirty feet, and will run on an I-beam on the wall, on one side, and an A frame, which will move along the floor, on the other.

Converting P. R. R. Locomotives.

Eleven of the twenty-four 100-class locomotives, used in the freight and passenger service of the Panama railroad prior to the arrival of the new 600-class engines, have been converted at Cristobal shops, and the remainder are being converted at the rate of two or three a month. These locomotives were made by the Schenectady locomotive works and were of the suburban type, that is, the tender and locomotive were on one base. In the conversion the tender is placed on a double truck of its own, and the fuel storage has been made interchangeable for oil or coal. The remodeled engines will be put in service on the Canal and railroad construction work, and for that reason will use coal for the present, since there are no oil storage tanks accessible on the relocation work. One engine has been fitted for oil burning, however, as an experiment, and will be tested on the main line.

FRESHET IN THE CHAGRES.

Canal Work Impeded and Railroad Traffic Interrupted by Heavy Flood.

One of the heaviest freshets of record in the Chagres River began on December 26 and continued through the 29th. It was quite unexpected as the weather had been fine for several days, and it was thought that the dry season was at hand. At Alhajuela and Bohio the water rose to the highest point of authentic record, and at Gamboa it was exceeded only by the great flood of December, 1906. The records of the flood of 1879, which seems to have been the greatest of which there is any record, are very vague. The only authentic elevations of high water in this flood were 39.37 feet at Bohio, and 23 feet at Gatun, both above sea level.

Previous to the 26th the rainfall at various stations on the Chagres watershed, although generally greater than the normal precipitation for December, was not such as to give apprehension of a flood. In fact, the water in the river had dropped to a comparatively low level, as will be seen from the height on December 20-25, as shown in the table of river stages given below.

At 3 o'clock on the morning of December 26, the river began to rise at Vigia, the gaging station 20 miles up the valley from the entrance to Culebra Cut, but there was no indication of excessive conditions until 8 o'clock that morning, when the rise became very rapid. At the beginning of the rise the surface of the water at Vigia was 130.46 feet above sea level, which is 5.46 feet above low water at that point, and at 9 o'clock, only six hours later, it had reached elevation 154 feet, which was only four-tenths of a foot less than the crest of the freshet of November 14-20. At this time communication with Vigia was interrupted, the telephone wires having been washed away. The observer's hut was carried down the river, and the shelter for the fluviograph was destroyed, although the instrument itself was saved. Records of water elevation were kept, however, by the observer, and when the flood recedes these will be available.

At Alhajuela, the river gaging station 11 miles up the valley from the entrance to Culebra Cut at Bas Obispo, the rise began at 6 o'clock on the morning of the 26th. At that time the elevation of the river was 96.2 feet above sea level, which is 4.2 feet above low water mark. At 11 o'clock, or five hours after the rise began, the surface of the river was at 115 feet above sea level, 3.6 feet above the crest of the November freshet. At this time telephone communication with Alhajuela was interrupted. The next information from the upper river was brought in a native canoe on the 28th. The highest elevation at Alhajuela was 121 feet above sea level, or 29 feet above low water, at 7 p. m., on December 26. This crest was 1.7 feet above the great freshet of December, 1906, and the highest of authentic record at that station. The wires were washed away and the fluviograph shelter was destroyed, but the instrument was saved, and elevations of the stages of the water were kept.

At Gamboa, the rise began at 7 o'clock on the morning of December 26, four hours after the first warning was sent out from Vigia, and one hour after the rise at Alhajuela. The river at Gamboa at the beginning of the rise was at elevation 51.6 above sea level, 5.6 feet above low water at that point. The water rose slowly up to 11 a. m., and then rapidly until 7 p. m., the maximum rise in an hour being two feet between 5 and 6 p. m. The crest passed Gamboa at 11.30 p. m., on the 26th, with an elevation of 78.2 feet, the rise being 26.6 feet in sixteen and one-half hours. At 9 o'clock the following morning the river was at 67.4 feet at Gamboa, and at 8 a. m., on the 28th, it was at 53.3 feet above sea level.

The river reached an elevation of 71 feet at Gorgona, which brought it within two inches of the floor of the shops. At Santa Cruz, the river overflowed the hamlet and washed away the roundhouse and blacksmith shop. An elevation of 35.8 feet was recorded at Frijoles at 10 p. m. on the 26th, and at that time the water drove the observers out of the station.

At Bohio, at 7 a. m., on the 26th, the water was at elevation 14, the low water mark at this station being at one foot above sea level. At 3 p. m. it had risen to 18.7 feet, and at 10 p. m. the surface of the river was at 28.5 feet above sea level. The rise was steady from that time until the crest passed at noon on the 27th, when the elevation was 38.7 feet, which is one-tenth of a foot above that of the freshet of December, 1906. This is the highest water ever recorded at Bohio, except for the record of 1879.

At Gatun, the low water stage of the river, south of Gatun Dam, is about sea level. At this point, at 7 a. m. on the 26th, it was at elevation 5.8 feet, and at 10 p. m., on the same day, the water had risen to elevation 10.9 feet. The rise was very gradual and at 7 a. m., on the 28th, the surface of the water reached elevation 19.6 feet. The height of the river changed very little above that point, the maximum elevation of 19.65 feet being reached about 9 a. m., on the 28th. The water is receding very slowly at this station, the surface elevation at 7 a. m., on the 29th, being 18.60 feet above sea level.

The rise and fall of the freshet may be seen from the following statement of the stages of the Chagres River from December 19 to December 28, inclusive:

	Stations.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft..	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Dec. 19.....	128.6	94.7	50.0	9.8	4.7	4.0
Monday, Dec. 20...	128.4	94.5	49.8	9.0	3.6	3.1
Tuesday, Dec. 21...	128.1	94.4	49.6	8.5	3.2	2.4
Wed'esday, Dec. 22	127.9	94.2	49.4	8.1	3.0	2.3
Thursday, Dec. 23..	131.0	96.3	50.8	8.1	2.6	2.1
Friday, Dec. 24....	130.4	96.3	51.2	10.7	4.2	3.5
Saturday, Dec. 25..	134.2	98.4	53.6	12.2	4.4	3.9
Sunday, Dec. 26....	.....	121.0	78.2	30.3	12.5	10.8
Monday, Dec. 27...	.....	117.0	78.0	38.7	19.2	17.2
Tuesday, Dec. 28..	.....	101.4	57.5	36.0	19.6	17.8

A comparison of the freshet of December 26-28 with other great freshets at Gamboa and Bohio is given in the following statement, the data for the freshet of 1879 being only approximate:

Date.	Feet Above Sea Level.	
	Gamboa.	*Bohio.*
1879..............................	82.5	39.37
1885, November....................	77.4	33.79
1885, December....................	70.0	26.41
1888..............................	77.3	34.68
1890..............................	77.7	32.15
1893..............................	71.2	28.54
1906, November....................	68.0	26.08
1906, December....................	81.6	38.65
1909, January 29..................	66.6	19.20
1909, June 15.....................	67.4	14.90
1909, November 12.................	64.0	26.70
1909, November 19.................	72.6	37.10
1909, December 7-18...............	67.9	30.80
1909, December 26-29..............	78.2	38.70

The freshet of December 26–29 showed better than any other flood the value of the upper river gaging stations. It came at a time of no severe rainfall, and when the double holiday of Christmas and Sunday had taken many men away from the region of their work. At 9 o'clock on the morning of the 26th, the Central Division was warned of the approach of unusually high water, and by 11.30 a. m., on the same day, warnings had been sent to the Atlantic Division in order that it might know what to expect at Gatun Dam; to the Subsistence Department in order that it could arrange for supplies for the south end of the Isthmus, and to the Panama railroad in order that its maintenance of way force might be prepared.

Central Division.

In the Central Division excavation was reduced to about one-half its normal proportions by the flood. A dike of earth and rock separates the north entrance to Culebra Cut from the channel of the Chagres River, at the point where the river crosses the line of the Canal for the first time. The top of this barrier was at 72 feet above sea level on the 26th. When it became evident that the water would rise above that elevation, the drainage pipes through the dike were opened, allowing the water to run into the Cut. The Cut did not fill rapidly enough, however, to prevent some wash, when the river finally overtopped the barrier at 3 o'clock on the afternoon of the 26th. The railroad track across the dike was carried several feet out of alignment, a part of the barrier was washed away, and the Cut was flooded as far south as signal tower O, between Las Cascadas and Empire.

At its crest, the flood at the barrier was 76 feet above sea level, and all parts of Culebra Cut below that level, north of the summit at Empire, were flooded. The pumping station was apparently uninjured. The work of unwatering the excavation was begun as soon as the river dropped below the level of the highest of the drainage pipes, about elevation 60, when the water began to run out by gravity. The unwatering will be continued by pumping.

All the steam shovels of the Central Division north of Gamboa, were put out of service by the water, and eleven shovels in Culebra Cut were unable to work on account of the flood. Some of these shovels were submerged, while others were put out of service by the flooding of the loading tracks. All the tracks, north of Las Cascadas, in Culebra Cut, were flooded, when work was resumed on the 27th, and trains could not be run to the dumps at Tabernilla. Some of the trains that would ordinarily have gone to Tabernilla were run onto the main line of the Panama railroad at Las Cascadas, and thence to the dumps at Balboa.

The big slide at Culebra was accelerated by the heavy rains that accompanied the flood, and the material flowed over the loading tracks to the center line of the Canal, and on the west side, leaving only the east tracks open.

Gatun Spillway.

Although the water rose to a height of 19.65 feet at the south end of Gatun Dam, the barrier at the south end of the Spillway prevented a repetition of the November flooding within the Spillway, and the amount of water that accumulated there was insignificant.

Interruption to Railroad Traffic.

The flood inundated the Panama railroad for the greater part of the distance between Gorgona and Gatun, the roadbed was washed out in a number of places, three bridges were either wholly or partly carried away, and through freight and passenger service was suspended from Sunday night until Wednesday morning. The last train to get through on Sunday was the passenger train which left Panama at 4 p. m. The river was then rising rapidly, and the train that left Panama at 7 p. m., was held at Gorgona. Monday morning, passenger trains were run from Panama to Bas Obispo, but by Monday night the service had been extended to Gorgona. At the north end the passenger train schedule was maintained between Colon and Gatun. When notice of the flood was received at Colon, a commissary train was started to distribute supplies to the Commission hotels, but only succeeded in getting as far as Tabernilla, and was held there until Wednesday. Telegraph and telephone communication between Panama and Colon was interrupted, but connection was restored late Tuesday afternoon.

The piling and trestle work of Bridge No. 48 at Alligator Bend, and of Bridge No. 46, between Bailamonos and San Pablo, were carried away, leaving the rails and ties suspended in the air. At Bridge No. 45, just south of San Pablo, a couple of bents were washed out causing the track to sag and making it impassable for trains. In time of floods, a large amount of water is diverted from the Chagres and passes under this trestle into the completed portion of the Canal, opposite San Pablo. During the recent flood a veritable torrent flowed through this outlet. A great mass of debris, including trunks of trees from two to three feet in diameter floated out from the main channel of the river and lodged against the piling of Bridge No. 45, and the strain to which it was subjected was attested by the splintered supports and braces.

A stretch of the south bound track, about two miles north of Gorgona, was undermined for an eighth of a mile or more. Another washout occurred near Mamei; also, one between Bailamonos and San Pablo, and one north of Frijoles. The work of repairing the roadbed and bridges was begun immediately after the water subsided, and was prosecuted vigorously all day Tuesday.

Passenger train No. 2, which left Panama at 6.35 a. m., on Wednesday, was the first through train to arrive at Colon since

Sunday, reaching its destination about 10 a. m. Train No. 3, which left Colon at 10.30 a. m., on the same date, was the first through train to arrive at Panama. Train No. 6, leaving Panama at 10.45 a. m., went only as far as Gorgona, and from that point ran through to Colon as a special.

The Flood at Frijoles.

Every house in the village of Frijoles was flooded and made temporarily uninhabitable, while five of the native houses collapsed. The residents received ample warning and sought refuge in the hills. The water rose over the pumping station, was half-way to the top of the police station, and reached nearly to the ceiling in the office at the railroad station. The water attained a height of about eight feet above the surface of the ground at the water tank alongside the railroad track. Some of the native houses were almost totally submerged, and considerable property loss was caused.

Rainfall in December.

The accumulated rainfall at seven of the principal stations for the period of December 1-25, inclusive, compared with the normal accumulated rainfall for December was as follows:

STATION.	Accumulated rainfall, December 1-25.	Normal accumulated rainfall for December.
	Inches.	*Inches.*
Alhajuela	8.03	5.81
Ancon	7.42	3.21
Bohio	12.21	7.23
Cristobal	24.29	11 93
Culebra	4.35	7.85
Gamboa	5.65	6.89
Gatun	19.95	11.02

Rainfall, December 1 to 25, 1909, Inclusive.
(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Division—	*Ins.*		*Ins.*
Cristobal	3.56	6	24.29
Brazos Brook	4.70	6	24.80
Gatun	4.16	6	19.95
Central Division—			
Bohio	1.41	6	12.18
Tabernilla	1.66	13	7.37
San Pablo	......	....	......
Gorgona	1.08	10	6.41
Gamboa	1.40	13	5.65
Empire	.91	11	3.87
Camacho	.65	11	3.99
Culebra	1 10	11	4.35
Pacific Division—			
Rio Grande	1.25	11	4 70
Pedro Miguel	.89	11	4.45
Miraflores	1.58	12	6.35
Balboa	2.07	9	6.44
Ancon	2.15	9	7.42
Atlantic Coast—			
Porto Bello	7.13	7	32.80
Nombre de Dios	7.13	11	21.46
Upper Chagres—			
El Vigia	2.63	12	8.65
Alhajuela	1.74	12	8.03

High Water Notes.

The iron water tank at San Pablo, which supplies locomotives with water, was carried a distance of 1,000 feet to the middle of the Canal.

The dynamite house at San Pablo was flooded, and about fifty cases of explosive were spoiled.

The fence of the baseball park at Gorgona was carried away and the grounds will be unfit for use for some time to come.

Three persons, a man and two women, Braulio Valencia, Thunie Sutherland, and Delice Batiste, natives, living at Bailamonos, were drowned on the morning of Sunday, December 26. They were walking along the railroad track between Bailamonos and San Pablo, and started to cross over a weakened trestle, when the ties gave way precipitating the trio into the water. The bodies were recovered Tuesday.

Gatun Lock Construction.

A total of 9,216 cubic yards of concrete was laid at Gatun during the five working days of the week ending Saturday, December 25. Of this amount, 606 cubic yards were placed in the Spillway at Gatun Dam, the concrete work at that point having been resumed on Monday, December 20. The record of concrete laying last week by days follows:

	Cubic Yards.
December 20	1,558
December 21	1,800
December 22	1,798
December 23	2,064
December 24	1,996
Total	9,216

The record up to the close of work on Friday, December 24, was as follows:

	Amount—Cu. yds.	Average per day—Cu. yds.
August (seven days)	1,298	185
September (26 days)	11,934	459
October (31 days)	29,378	948
November (24 days)	30,098	1,254
December 1 to 4	6,254	1,563
December 6 to 11	10,430	1,737
December 13 to 18	10,046	1,674
December 20 to 24	9,216	1,843
Total	108,654	997

Concrete Work at Pedro Miguel.

A new record in the amount of concrete laid in the Pedro Miguel Locks in a single day was established on December 21, when the total amounted to 624 cubic yards. The best previous day's work was on December 16, when 622 cubic yards were laid. The daily record for the five working days of the week ending December 25, follows:

	Cubic Yards.
December 20	523½
December 21	624
December 22	575½
December 23	536½
December 24	580½
Total	2,840
Daily average	568

The amount of concrete placed in the locks from the beginning of work on September 1, to December 25, inclusive, is as follows:

	Cubic Yards.
September	2,369½
October	8,396¼
November	10,080½
December 1 to 4	2,111
December 6 to 11	2,752½
December 13 to 18	3,043½
December 20 to 25	2,840
Total	31,593¼

The new 2-yard stationary mixer, located on the east side of the locks, was brought into operation this week, and will augment the future output considerably. The temporary mixer equipment now consists of two 2-yard stationary mixers, and three portable mixers of one cubic yard capacity each.

Rock from Porto Bello.

About 2,000 cubic yards of crushed rock from Porto Bello are delivered daily at Gatun. Most of this is towed up the old French canal to the unloading cableways, by which it is conveyed to the storage piles. The remainder is unloaded at Mindi and Dock No. 13, Cristobal, into dump cars, by which it is hauled to the locks at Gatun. In the auxiliary rock unloading plant at Gatun, located on the unloading slip, one of the storage bins is completed and the other is well advanced. This plant will also unload rock by means of derricks and clam-shell buckets. One bin will discharge by gravity directly into the automatic cars that will haul the materials to the concrete mixers, while the other will discharge by gravity into dump cars, which will haul the rock to the forebay mixing plant at the south end of the lock site.

Balboa Notes.

Nearly 25,000 cubic yards of rock were broken during November by the drills engaged in subaqueous blasting operations in the channel section of the Pacific Division. Eleven drills are at work on a rock area about a mile and one-half up the channel from Balboa.

The Panama railroad tug *Bolivar*, thoroughly overhauled at the shipways, was put into service again on Tuesday, December 7, having been out of commission since the early part of May. It has been rewired for electric lighting, new boilers of the Scotch marine type have been installed, the hull has been scraped, and all the worn out wood parts have been replaced.

A new dynamite magazine, which will be nearer to the site of operations than the present one, is to be built on the west bank of the Canal, nearly opposite the Balboa sand dock. Concrete blocks are to be used in its construction.

Culebra Island Water Service.

A well is being bored on Culebra Island in an effort to improve the fresh water facilities at the quarantine station. The fresh water supply at present depends on two rainwater tanks of approximately 50,000 gallons capacity each, and during the last dry season proved inadequate. In the past rainy season a store accumulated, and the tanks now contain about 75,000 gallons. There is also one salt water tank on the island which supplies water for ordinary uses. If an abundant supply of good water is tapped, a windmill will be used to keep the tanks filled. The workmen have reached a depth of between 70 and 80 feet, and are drilling through what is regarded as one of the hardest veins of rock so far encountered on the Isthmus. Progress accordingly has been very slow.

A Mine of Dredge Buckets.

Near where the Rio Grande crosses the Canal channel at a point nearly opposite Corozal, a half dozen or more buckets belonging to old French ladder dredges were showing above water at low tide when the Pacific Division dredges began work in that locality a short time ago. All the buckets in sight were removed, but as excavation proceeded, others were encountered until the number reached fifty-five. Some of them were still in fair condition, but a good many were badly rust-eaten and practically worthless. The entire lot were transported to the shipways where they will be stripped of the parts still in usable condition.

Twelve thousand pounds of candy, $3,000 worth of toys, and over 500 fruit cakes were sold by the commissaries during the Christmas time.

FILL IN ATLANTIC ENTRANCE.

November Rains Caused Shoals There and in French Canal.

A fill of 550,000 cubic yards was made in the Atlantic entrance to the Canal by the heavy rains and rough seas of November. A survey completed on November 27 established this fact, and the abnormal filling continues. From the records of former months the ordinary fill in the dredged channel does not exceed 200,000 cubic yards a month, and it is estimated, therefore, that 350,000 cubic yards of the material washed into the Canal during November came through the Mindi River and was due to the unusually high water.

Water carried down the Chagres flowed into the basin north of Gatun Dam made by the dredges on the hydraulic fill of the Dam, and from there found an outlet through the old French canal. More water flowed through the old canal than has been carried in that channel since the closing of the French canal and the East Diversion by Gatun Dam. It found a partial outlet through the mouth of the Mindi River, which it deepened and made much broader. Part of the material thus washed out, and in addition, much of the silt carried by the water, were deposited in the channel at the Atlantic entrance to the Canal. A shoal was raised in the cut that will require several weeks of dredging to reduce. The dipper dredge *Mindi* worked on it ten days, and one of the ladder dredges is still working on it.

A large amount of silt was also deposited in the channel of the old French canal, through which the barges with sand, rock, and cement are towed to Gatun. Several shoals resulted, the principal one of which is north of the crossing of the Mindi River, being over a mile long, and in order that navigation may not be interfered with, these shoals are being reduced. The dredging will be continued until a uniform depth of 15 feet is procured between Cristobal and Gatun. This will make it possible for the tugs that bring the sand and rock scows from Nombre de Dios and Porto Bello to take their tows direct to Gatun, instead of turning the barges over to lighter draft tugs at Mount Hope, as is now done.

The dredge *Chagres*, which has been excavating sand at Nombre de Dios, was brought back to Cristobal early in December and is now at work on the shoals in the French canal between Cristobal and the point where the Mindi River crosses the Canal. A few hundred yards north of this dredge is the other dipper dredge of the Atlantic fleet the *Mindi*, which was recently at work on the approach channel to Dock 11 at Cristobal. On December 16, one of the suction dredges at work on the hydraulic fill of Gatun Dam was towed down the canal and set at work north of the dredge *Mindi*, near the Cristobal marine shops. These three dredges will deepen the channel. The material is largely silt and is easy to handle, although rock has been struck in some places.

An earth dike is being built across the channel between the river and the basin made by the dredges, north of Gatun Dam. This will keep the water from the river out of the French canal and eliminate the strong current which hampered the towing service seriously during the recent floods. It will also stop the principal causes of shoaling and will incidentally reduce the level of the water in the French canal about a foot, and the dredging now in progress anticipates this reduction.

Increased Crushed Rock Output.

The installation of an additional 2-yard concrete mixer at Pedro Miguel Locks has necessitated operating the Rio Grande rock crushing plant on a larger scale. Heretofore the crusher has been able to keep up with the demand on a schedule of ten hours per day, but with the increased consumption, it has been found necessary, beginning this week, to work overtime. It is planned to discontinue overtime work, however, within a few days, and to operate the plant with two shifts, a daylight shift of 12 hours, and a night shift of eight hours.

The Rio Grande plant has been furnishing all the crushed rock for the works at Pedro Miguel and will continue to do so until the new plant at Ancon Hill is completed. In addition, it has been filling the requirements of the Quartermaster's Department, the sanitary improvement work in Panama, and the macadam and concrete construction work, and miscellaneous repair work on Zone roads in the Pacific Division.

The output of the crusher has averaged about 600 cubic yards per day, but on Friday, December 24, a total of 664 cubic yards was crushed. The cost of quarrying and crushing the rock on that date, not including cost of air and overhead charges, was 38 cents per cubic yard. It is estimated that the requirements from now on will be between 800 and 900 cubic yards per day, which, under the new arrangement, can be met.

Preserving Sills and Floors of Flat Cars.

The painting of sills and floors of the wooden flat cars used with unloading plows, which has been done for some time past, has so materially lengthened the life of the wood used in these cars that all the flat cars brought into Gorgona shops during December were given a coat of black tar paint on the high side and floor. This experiment is made to determine the effect of painting in preserving the wood on the surface subjected to the wear of the unloading plows.

Depositaries for Canal Zone Funds.

Negotiations will be entered into with the banks in Washington and Panama, now acting as depositaries for Canal Zone funds, with a view to making contracts for the payment of interest during the coming year. The Washington depositary has held not less than $1,000,000 of Canal Zone funds during the past year, on which it pays an interest of three and a half per cent.

Atlantic Division Tug Operations.

The heavy current running in the Mindi River during the week of heaviest rains in November made it impossible for one tugboat to successfully tow the rock and sand barges to Gatun, therefore, in most cases two tugs were used to one full barge. The *Exotic* was used to assist the tugs *Mariner*, *Bohio*, and *Gatun*, and a couple of clapets in maintaining the schedule between Pier No. 13, Mindi, Cableways, and Spillway Docks.

The tug *M. E. Scully* steamed 1,420 miles during the month, carried 1,728 passengers, and handled 48 tows. It was in drydock from November 10 to 13, and again on November 21, 22, and 27. The *Porto Bello* steamed 1,240 miles, carried 1,378 passengers, and handled 49 tows. The *Mariner* steamed 1,132 miles, of which 600 miles were at sea, carried 94 passengers, and handled 98 tows, of which 69 were between Pier No. 13 and Gatun.

Visit of Senators.

United States Senators Clarence D. Clark of Wyoming, Thomas H. Carter and Joseph M. Dixon of Montana, W. B. Heyburn of Idaho, and Boies Penrose and George T. Oliver of Pennsylvania, arrived on the Isthmus on the U. S. S. dispatch boat *Dolphin* on December 22, and returned to the States on December 25. They spent three days in inspecting the chief phases of Canal work.

The Hon. James P. Latta, representative in Congress from Nebraska, arrived on the Isthmus on the *Allianca* on December 21, accompanied by Mrs. Latta, and two friends. They returned to New York on the *Allianca*, sailing December 26, after inspecting the Canal work in company with the visiting Senators.

Lidgerwood Unloaders in November.

A statement of Lidgerwood cars unloaded on the Central Division dumps during the month of November follows:

LOCATION.	No. of unloaders.	No. of trains.	No. of cars.
Balboa	3	718	13,642
Miraflores	3	602	11,399
Tabernilla	5	1,257	22,626
Total	11	2,577	47,667

Track Shifting in Central Division.

A statement of track raised and thrown by machine in the Central Division during the month of November, 1909, follows:

SHIFTER No.	Location.	Amount.
		Feet.
No. 5.	Tabernilla	226,700
No. 5.	Empire	21,044
No. 6.	San Pablo	4,950
No. 7.	Santa Cruz relocation.	58,333
No. 8.	Miraflores	102,667
Nos. 2 and 9	Balboa	108,600
Total		*522,294

*Or 98.92 miles.

Insane Asylum Buildings Completed.

The new buildings on the Ancon Insane Asylum reservation, comprising two wards for the male patients, dining room, and attendants' quarters, were completed about three weeks ago. There were 254 inmates in the institution on June 30, 1909, which was the largest number ever under treatment at one time. On December 17, the patients numbered 244. During the past few months about thirty patients have been returned to their former homes in Barbados, Jamaica, and other islands of the West Indies, and this measure has materially aided in keeping the institution from becoming overcrowded.

Isthmian Tennis Tournament.

An open tournament for lawn tennis players will be held on the Hotel Tivoli courts in Ancon on January 1 and 2. Representatives of any regularly organized club may enter by paying a fee of two dollars for each team of one, two, or three men. The single fee will cover entries in the singles and doubles. The play will begin at 10 o'clock on the morning of January 1. Entries should be sent to Dr. W. M. James, Ancon.

FILLING GATUN LAKE.

Enough Water Ran Off the Chagres Watershed, in Ten Months, to Fill the Lake.

The discharge and river stage records from the flood of November 11–27 in the Chagres River are the most complete that have ever been obtained. The record of the flood of 1906, the only other of the great floods from which there are any accurate discharge measurements, is incomplete in that it lacks the maximum for all stations. During the freshet of November 11–27 the water reached such a height at Vigia, the gaging station on the upper Chagres, that the water stage register was flooded and the observer was driven from the station, but accurate records were kept by gage readings during the time when the automatic register was out of commission. Current meter measurements were made at Alhajuela on the rise, crest, and fall, and form a particularly complete record. At Bohio current meter measurements were made to within 1.8 feet of the crest, the river then rising to the point where it flooded the gaging car. However, elevations were perfectly recorded, and from these the maximum discharge is obtained. At Gatun a full series of gagings was made on the rise, at the crest, and on the fall. The washing out of the construction railway trestles at this point destroyed the automatic register, and river elevations were taken from rod readings.

Between the dates when the flood conditions prevailed (November 11 to 27), it is estimated that 55,650 million cubic feet of water passed Gatun. This is at an average rate of 37,890 cubic feet per second, equivalent to 28.70 cubic feet per second per square mile, or 18.13 inches on the entire area. The normal discharge at this station for the period referred to is estimated to be about 19,570 million cubic feet. The increase, therefore, due to excessive rainfall is 36,080 million cubic feet, equivalent to 11.77 inches over the drainage area of 1,320 square miles. The rainfall which caused the excessive floods occurred between the 15th and 20th, and the total amount for that period at ten stations was as follows:

	Inches.
Chepo	12.66
Porto Bello	16.74
Vigia	12.81
Alhajuela	11.04
Gamboa	7.34
Bohio	9.44
Gatun	12.06
Cristobal	10.04
Lagatera (Trinidad River)	10.96
Chorrera	9.18

Comparing these amounts with the average excess rainfall over the drainage area, 11.77 inches, it appears that nearly the whole precipitation of this period was discharged into the lake, very little, if any, being retained in ground storage. The flow past Gatun was nearly 2.5 times the amount usual at this season of the year. It is estimated that if all this water had been retained in the lake it would have raised the surface to about elevation 48.8, and would have covered an area of nearly 90 square miles, and the dead water surface would have backed up to above Gamboa. In other words, the flood brought down enough water to about one-third fill Gatun Lake to the normal elevation of 85 feet above sea level.

At its crest the flood reached an elevation of 21.5 feet above sea level at Gatun, and it is estimated that at that elevation the water covered an area in the lake of 32.47 square miles, the total volume being 9,652,276,780 cubic feet. The area of Gatun Lake, with the water at 85 feet above sea level, will be 163.38 square miles, and 183,136,226,495 cubic feet of water will be impounded. The records of river gagings show that if the total discharge of the Chagres above Gatun from January 1 to December 1, 1909, had been retained, Gatun Lake could have been filled to elevation 85 by the middle of October, and almost as much more wasted.

Service Medal List.

A list is being prepared in the office of the Chairman and Chief Engineer, to include the names of all employes of the Isthmian Canal Commission who during the calendar year ending December 31, 1909, completed two years' continuous service, or four years' continuous service, thus earning a Canal Medal or a medal bar.

Medals are only awarded to citizens of the United States, and it will facilitate the completion of the list and prevent omissions if employes who are citizens through naturalization will forward their final certificates of naturalization to the Assistant to the Chairman, for registration.

A similar list is being compiled in the office of the General Superintendent of the Panama Railroad Company, to include the names of the employes of the railroad who have earned a medal or a bar during the calendar year 1909. When the two lists are completed they will be published in the Canal Record, for the information of employes concerned, who will be requested to report for correction any errors which they may detect.

Isthmian Canal Medal Association.

At the preliminary meeting of the Isthmian Canal Medal Association held at the Ancon lodge hall on December 19, it was decided that an organization of all persons who have received or earned the right to a two years' service medal under the ruling of the Isthmian Canal Commission, should be formed: (1) for the purpose of social amusement; (2) for the discussion of matters of mutual interest and benefit to its members; (3) for the payment of a death benefit of not to exceed $500, United States currency, in the event of the death of a member while employed on the Isthmus of Panama, or during absence on authorized leave.

It was further decided to hold the next meeting of the association at the Ancon lodge hall on January 30, 1910, at 3 p. m., for the purpose of adopting the constitution and by-laws and the election of officers thereunder; also, to provide for incorporating the association under the laws of the Canal Zone.

The following members are designated to receive applications for membership at the points named: J. J. Reidy and W. S. Stewart, Cristobal; R. N. Ferguson and John H. Guinther, Gatun; Herbert Pearson, Empire; H. S. Farish and M. F. Bradney, Culebra; William Claus, Paraiso, and A. E. Cornwell, Ancon.

Applications from points along the Zone not mentioned above may be forwarded to E. F. J. Goldsmith, temporary chairman, P. O. Box, 115, Ancon, C. Z. In making application for membership letters should contain the following information: (1) name of applicant; (2) occupation; (3) Canal Medal number; (4) location on the Isthmus; (5) name of death beneficiary with address.

If a Canal Medal has not yet been received, state the date of arrival on the Isthmus so that the date when same was earned may be ascertained. Everybody is invited to attend the next meeting.

E. F. J. Goldsmith,
Temporary Chairman.

Ancon, December 22, 1909.

Police Activities in November.

There were 142 fewer arrests in the Canal Zone in November than during the preceding month. Forty arrests were made on the charge of vagrancy, and 12 for cruelty to animals. Of the 464 offenders, 420 were men and 44 were women. The list of offenses covered an unusually wide range and numbered 56.

Two hundred and fifty men were on the police force at the end of the month, a decrease of two from October. The men on special duty numbered 69, an increase of four. The pay rolls amounted to $21,660.71.

Thirty-seven criminal cases were tried in the circuit courts, 14 of which were continued, seven dismissed, and 16 in which convictions were secured. Twenty-four civil cases were brought to trial, and the sum of $1,233 was collected by the marshal in executions.

The Zone convicts numbered 113 on October 31; received during the month, 8; discharged, 9; total on November 30th, 112. The number of district prisoners on the same date was 102. The prison pay rolls for the month amounted to $1,757.61; cost of prisoners' subsistence, $813.75; value of property issued, $151.58, a total expense of $2,722.94. The value of work performed by prisoners on the Empire-Paraiso, and West Culebra roads, was $1,251.60.

There were 18 deaths from violence in November requiring action by the coroner, eight of which were by drowning, mostly due to the recent floods. There were two victims of homicides, Mrs. Julia E. Tull, and Nicolas Calzada. The latter died from a machete wound inflicted by Tolentino Morales, who is in custody awaiting trial. The assailant of Mrs. Tull has not yet been apprehended. Three deportations were made, all ex-convicts, two to Colombia, and one to Spain.

The outpost at San Pablo, formerly within the jurisdiction of the Gorgona district, has been transferred to Tabernilla.

Civil Service Examination.

A civil service examination for the position of immigrant inspector will be held at Culebra on or about January 13. Applicants should communicate at once with John K. Baxter, office of the Chairman, Culebra.

Kangaroo Election.

At a regular meeting of Empire Court No. 1, of the Independent Order of Panamanian Kangaroos, held at Empire on Saturday, December 18, the following officers were elected to served for the coming term: E. C. Mills, judge; L. P. Worrall, prosecuting attorney; C. L. Woodman, defendant attorney; Rev. W. H. Decker, chaplain; H. E. Picken, comptroller; John Mahon, sheriff; M. S. Hathaway, clerk.

The new officers will be installed at the regular meeting to be held in Kangaroo Hall at Empire on the second Saturday in January, 1910.

NEW ZONE HIGHWAY.

Completion of the Road from Empire to the Las Cascadas Plantation.

The highway extending from the east side of the Canal at Empire to the Las Cascadas plantation was completed and thrown open to traffic on October 31. The work was begun on February 24, 1909, and continued without interruption. It starts at the bridge over the Obispo Diversion, where it connects at a right angle with the road extending along the bank of the Cut, and follows, for practically its entire length of 13,750 feet, the tortuous course of the Masambi River. The Masambi is a small stream—a mere rivulet toward the end of the dry season—but it is subject to sudden rises during the period of heavy rains. It is never in flood more than a few hours, however, owing to the rapid descent of the water over its declivitous bed.

The road gradually ascends the north side of the valley for the first mile or more, but after crossing the Masambi River by bridge to the south side, the grade is much steeper, and ascends steadily until the terminus is reached. For the greater part of the distance the road has been excavated from the side of the hills, the material removed having been cast over the far side of the embankment. A great deal of this excavation was in clay banks, but in some sections the cuttings were through rock of varying degrees of hardness. Scrapers were used principally in all the heavy excavation sections.

The work was started from the plantation end, and an 8-foot trail was cut through to enable the transportation of material, much of which during the early stage of operations was carried on the heads of laborers, or packed by animals. The average width of the roadway, including the ditches, is sixteen feet, and of the crushed stone surface, eight feet. The crushed rock came from the quarry at Bas Obispo and was spread over the road to a depth of six inches. Four 30-inch, seventeen 18-inch, and nine 12-inch small culverts and drains; two large concrete and masonry culverts, and one bridge were constructed. Most of the smaller culverts and drains consist of mortar pipe embedded in concrete; the remainder of vitrified and galvanized iron pipe. The bridge over the Obispo Diversion is of concrete reinforced with old iron rails, and is supported by six concrete pillars. A branch of the Masambi River is crossed by a concrete culvert, with masonry portals. The floor of this culvert is made of iron rails overlaid with iron plates supporting a heavy layer of concrete. The Masambi River bridge is also a concrete structure, with masonry portals, and has a 10-foot opening made of a section of large French iron pipe.

Near this bridge are the falls of the Masambi, a series of cascades with a drop of about 100 feet in as many yards, the last plunge being over a rock boulder incline for a distance of 30 or 40 feet. The cascades present a pleasing spectacle, and are visible from the road which follows the brink of the gorge for some distance.

Travel over the highway at present consists principally of native pack ponies carrying fruits and vegetables to Empire, and of the teams of the plantation company. There are a number of small fincas, or native farms, scattered along the valley, and as the soil is fairly fertile, improving with the upward trend, it is believed that the road will induce considerable agricultural development in this section of the Zone. A survey has been made farther up the valley to the village of Cruces, located on the royal road, where there are broad and fertile savannas.

The road connects with Empire by a highway that follows the edge of the Cut south for a distance of 1,500 feet until the suspension bridge which establishes communication between the town and the east bank of the Canal, is reached.

In the building of the plantation road, 12.5 acres of ground were cleared; 21,565 cubic yards of earth and rock were excavated; 18,200 square yards of subgrading were accomplished; 90 linear feet of 30-inch and 360 linear feet of 18-inch pipe were laid for drains and culverts; 2,037 cubic yards of crushed stone were spread, and 45 cubic yards of concrete, 56 cubic yards of stone masonry, and 42 square yards of rip-rap were placed. The total of macadam laid amounted to 12,222 square yards.

The total cost of the work to October 31, 1909, the date of completion, was $21,244.51, divided among the following items: Surveys and preparation of plans, $637.42; direct labor charges, $14,624.65; overhead charges and supervision, $1,462.46; corral service, $3,125, and material and supplies, $1,394.98. A portion of the total expense is to be borne by the plantation company.

At the Churches.

Church services were held on Christmas Day at Ancon, Culebra, and Colon, and on Sunday, December 26, Christmas services were held at the churches in the Zone towns.

The quarterly meeting of the Isthmian Sunday School Association will be held in the Commission chapel, Empire, on Sunday, January 9, at 2.30 p. m. Each of the 12 federated Sunday schools is entitled to representation by two delegates. Other members of the schools are invited to attend the meeting.

A New Year sermon will be delivered by Rev. Carl H. Elliott at the recreation hall at Corozal, Sunday morning, January 2, at 10.30 o'clock. Subject, "Another Chance." Rev. Elliott will speak on the same subject in the Commission chapel at Las Cascadas, Sunday afternoon, at 3.30 o'clock.

A special Sunday school meeting will be held in the Commission chapel at Gatun, Sunday, January 2, beginning at 9.30 a. m. An address will be given by Rev. Aquila Lucas, international Sunday school secretary for the West Indies, Central and South America.

The music given at the Christmas service will be repeated at the Union Church meeting at Cristobal on Sunday evening, January 2. Rev. Mr. Elliott, the pastor, will deliver a New Year sermon.

Excursion to Pearl Islands Cancelled.

Owing to an unforeseen delay in the arrival of the Pacific Steam Navigation Company's steamship *Manavi*, which had been chartered by the Y. M. C. As. of the Canal Zone for an excursion to Pearl Islands on New Year's Day, and the inability to secure another vessel for the trip, it has been necessary to cancel all arrangements. The applications for tickets were more than double the number that could be accommodated.

SOCIAL LIFE OF THE ZONE.

Christmas Celebrations.

Christmas was celebrated throughout the Canal Zone by public entertainments and Christmas trees, and it is estimated that more than 1,500 American children participated in the joys of the occasion. Entertainments were held and gifts distributed at each of the four Y. M. C. A. clubhouses.

The Culebra clubhouse was prettily decorated, there being an abundance of evergreen and palms artistically arranged about the building. The stage setting in the hall was made to represent an open fireplace, with chimney, and looked exceedingly realistic. The Christmas trees, illuminated by vari-colored electric lamps, were placed at the foot of the stage.

At the Empire clubhouse, an excellent program was given by the children, after which a luncheon was served. Santa Claus gave good cheer and presents to fully 300 children. The building was attractively decorated for the occasion.

The Christmas exercises at the Cristobal clubhouse were attended by about 400 people. The interior of the building was appropriately decorated with palms and evergreen, and an excellent program of recitations and music was given by the children of the Cristobal and Colon public schools. The entertainment concluded with the distribution of presents, including a large quantity of fruit, nuts and candy.

The Christmas exercises at the Gorgona clubhouse were greatly enjoyed by the audience. A cantata entitled "Santa Claus' Reception" was given by about fifty of the children of Gorgona.

Entertainments were held at Corozal and Paraiso on Christmas Eve under the auspices of various organizations, while at Las Cascadas, the Kangaroos had a tree, to which the community was invited. A celebration was also held at the Methodist Church in Panama.

On Thursday evening, December 23, entertainments were given at Pedro Miguel and Las Cascadas; at the latter place for the Sunday school.

Several dances were held on Christmas Eve, including one by the Colon Club at the Lincoln House and one by the Tivoli Club at Hotel Tivoli. A dance was held at Corozal on Christmas night in honor of the opening of the new recreation hall. A card party was given at Pedro Miguel on Christmas Eve.

Red Cross Flower Dance.

Arrangements have been completed for the flower dance to be given at the Lincoln house in Colon on Friday evening, December 31, for the benefit of the Canal Zone branch of the American Red Cross. The committees are: Reception—L. C. Collins, J. A. Smith, T. E. Brown, jr., Courtland Nixon, P. T. Murphy, J. F. Leys. Floor—Robert Beverley, A. A. Greenman, L. T. Mock, M. E. Connor. Dance—Mrs. P. T. Murphy, Mrs. C. Nixon, Mrs. O. W. Herman. Music will be furnished by the Colon municipal band.

A party of fifteen young ladies of Clarion, Miss., will leave New Orleans for Colon on January 15, for the purpose of viewing the Canal work. While away from home they will be the guests of a newspaper published in Clarion.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

Owing to the heavy rains it was impossible for Judge Brown of Cristobal to give the Christmas address at Culebra, Sunday evening. At a late hour a musical program consisting of the following numbers was arranged: Prelude by Mrs. F. C. Freeman; congregational singing; solo, Mrs. Pierson of Gorgona; responsive reading, F. C. Freeman; prayer, R. G. Goodman; solo, G. R. D. Kramer; violin obligato, E. Dow Gilman; reading, "Tennyson's Christmas Bells;" congregational singing; solo, "Face to Face," Mrs. Pierson; solo, "Hold Thou My Hand," E. Paul Case; duet, "Sun of My Soul," Mrs. Pierson and Mr. Kramer; closing song.

EMPIRE.

The junior department has been organized into a boys' club officered and conducted by the members under the directorship of the assistant secretary. The officers elected are as follows: President, board of directors consisting of five boys, secretary-treasurer, physical director, chairman of entertainment committee, and chairman of debating committee. The boys are fitting up one of the rooms on the second floor which will be known as the boys' clubroom.

A duck pin bowling tournament was started last Monday night.

The highest five-man team duck pin score ever recorded on the Isthmus was rolled here recently. The score was 509.

GORGONA.

The concert which was to have been given by the German orchestra from the Hamburg-American steamer on Monday night was postponed on account of high water.

Durand and Otis still lead the "Rag-Time" bowling tournament with a score of 1,070 for three games.

A number of new library books will soon be purchased. Any member having a suggestion to make will kindly give same to Mr. Dauphine, librarian.

CRISTOBAL.

The first regular meeting of the Cristobal chess club, was held in the clubrooms on Tuesday evening, December 21, and was attended by 18 members. Twenty-seven games were played. Shortly after the first of the year it is proposed to start two tournaments of class A and class B players, from the winners of which, it will be possible to select the players who will represent the Y. M. C. A. in matches with the other association clubs.

GENERAL NOTES.

The indoor baseball teams of the Y. M. C. As. have been organized into an interassociation league and will play the first games Saturday evening, January 8. A series of twelve games will be played and individual medals will be awarded the members of the winning team. A trophy prize goes to the club whose team wins the greatest number of games.

The Y. M. C. As. of the Canal Zone have been fortunate in securing the Hon. William Jennings Bryan for a series of lectures to be given in the clubhouses and at the National Theater in Panama early in January, 1910. Tickets can be secured of the local secretaries and a further notice will appear in the next issue of THE CANAL RECORD.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Empire, C. Z., on Sunday, January 2, 1910, at 6 p. m. The program follows:

1 March—*Grand Opera*.................... ...Missud
2 Selection—*Marcelle*..........................Luders
3 Waltz—*Italian Nights*.....................Tobani
4 *a* Popular March—*Hammock Love Song* La Farge
b Popular Song—*Oh! Miss Malinda*. Armstrong
5 Overture—*Fest*..............................Latann
6 Barn Dance—*Stack of Fun*....................Rolfe
7 Descriptive—*Battle of San Juan Hill*.......Sweet
Synopsis—The sleeping camp. Dawn appears. A cock crows and birds sing. Reveille is heard and the camp is soon in motion. Assembly call. The infantry falls in line of battle and marches to scene of action. Adjutant's call. The cavalry approaches. Battle prayer. The battle is on. Grand melée of infantry, cavalry and artillery. Triumph of the American arms. The Star Spangled Banner. Finale.
8 Song for Cornet—*The Sweetest Story Ever Told*..Stults
9 Suite de Ballet—*Antony and Cleopatra*. Gruenwald
1. In the Arbor. 2. Dance of the Nubians. 3. Solo Dance. 4. Antony's Victory.
10 Galop—*The Races*..........................Barnard

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Hotel Tivoli, Ancon, on Sunday, January 9.

ISTHMIAN LEAGUE.

RESULTS OF GAMES, DECEMBER 25.

At Ancon—Gorgona, 9; Ancon, 8.
At Empire—Empire, 4; Marines, 1.

STANDING OF CLUBS.

	Won	*Lost*	*P. C.*		*Won*	*Lost*	*P. C.*
Gorgona...	4	1	.800	Empire....	2	3	.400
Ancon......	2	1	.666	Marines....	0	4	.000

SCHEDULE FOR JANUARY 1:

Empire at Ancon.

Gorgona defeated Ancon at baseball on the Ancon grounds on the afternoon of Christmas Day by the score of 9 to 8. This was the first full game played this season at the Ancon park, and there was a large attendance, including a number from Gorgona. Heavy hitting characterized the game on both sides, and three home runs were made, two by Gorgona, and one by Ancon. The Empire team won the game from the Marines at the Empire park on Christmas Day by the score of 4 to 1.

Atlantic League.

The games scheduled for Christmas Day, and for Sunday, December 26, at the new Colon park, between the teams of the Atlantic League, were postponed on account of rain. The continued rainfall of the past few days has made the grounds very soft, and no games will be played on Sunday, January 2.

Coal.

The total amount of coal received for use of the Commission between January 1 and October 31, 1909, was 236,559 tons, and the amount estimated as a year's supply for both the Commission and the Panama railroad is 481,550 tons. A few weeks ago there was complaint that the quality of the coal being delivered was not so good as that formerly sent to the Isthmus. An investigation of the conditions under which the coal is used in the various divisions developed the fact that in the dredging fleets new stokers had been employed. On the Central Division steam shovels and locomotives there is no complaint of the quality of the coal, and recent efforts to improve the firing of boilers have resulted in an improvement in the results obtained from the coal.

An examination of the coal pile at Mount Hope was made on November 15. As it was 400 feet long, 75 feet wide, and 30 feet high on that date, only parts of the pile could be examined, but specimens were taken from several parts on the surface and from the interior and bottom. It was found that the amount of dust and fine coal ranged from 60 to 75 per cent, but that the amount of shale and other foreign substances was small. It was found also that some cars in which coal was being shipped were not well cleaned and that a quantity of sand got into the coal in this way. A calorific test was made of samples taken from the pile at Mount Hope, the ships at the docks, and the barges that serve the dredging fleets at Colon and Balboa, and the number of B. T. U. per pound ranged from 14,053 to 14,666, which indicates a good quality of coal. The boiler inspectors have been directed to report on the quality from their point of view, in order that the data may be complete and the cause for complaint traced to its origin.

Launch Service to Taboga.

The steamer *Sanidad* leaves the dredge landing at Balboa at 9 o'clock Tuesday, Thursday and Saturday mornings. On the return trip it arrives at Balboa about 4.30 p. m. in time to make connections for the 5.30 train at Panama.

OFFICIAL CIRCULARS.

Acting Chief of Police.

ANCON, C. Z., December 24, 1909.

CIRCULAR NO. 92:

During the absence on leave of the Chief of Police, commencing December 26, 1909, First Lieutenant Chas. W. Barber is designated Acting Chief of Police.

H. H. ROUSSEAU,
Acting Head of Department of Civil Administration.

Hotel Books.

CRISTOBAL, C. Z., December 27, 1909.

CIRCULAR NO. 136-A:

All Concerned—In accordance with the rules, detached coupons from hotel books are of no value, and if presented will be taken up and made void. If coupons become accidentally detached they should be kept until all other coupons in the book have been used, and then the cover of book and detached coupons should be sent in to this office with a letter of explanation and request for refund. Such communications should be forwarded under registered cover.

Effective January 10, detached coupons presented at hotels will be taken up at the door and confiscated.

Hotel books must always be handed to the clerk on duty at the door, who will tear out necessary coupons and return the book to the owner.

EUGENE T. WILSON, *Subsistence Officer.*

Local Agent at Panama.

PANAMA RAILROAD COMPANY,
COLON, R. P., December 22, 1909.

CIRCULAR NO. 249.

Effective this date, Mr. A. S. Jussen is appointed local agent at Panama, in charge of freight and passenger business, vice Mr. D. J. Deasy, resigned.

J. A. SMITH, *General Superintendent.*

Freight and Passenger Business at Colon.

PANAMA RAILROAD COMPANY,
COLON, R. P., December 22, 1909.

CIRCULAR NO. 250:

Effective this date, all freight and passenger business at Colon, including through and local, will be handled by the receiving and forwarding agent.

J. A. SMITH, *General Superintendent.*

Pythian Lodge Instituted at Gorgona.

Cruces Lodge No. 9, Knights of Pythias, was instituted at Gorgona on December 18 by Zone Deputy A. M. Warner assisted by the degree team of Balboa Lodge No. 4, of Las Cascadas. There are 39 members. The following officers were installed: H. W. Bevington, supreme chancellor; C. S. Boyer, vice-chancellor; A. A. Hunter, prelate; E. L. Emery, master at arms; W. S. Parks, master of exchequer; L. L. Ryer, keeper of records and seals; S. D. Roper, master of finance; G. F. Grosse, inner guard; B. F. Schneider, outer guard. Members of the Ancon, Las Cascadas, and Gatun lodges were present. Addresses were made and supper was served by the entertainment committee of the new lodge. There were 100 present.

The bimonthly meeting of Canal Zone Temple, No. 1, Pythian Sisters, was held at Empire on Wednesday evening, December 22. Refreshments were served after the business meeting. The installation of the newly elected officers will take place on January 12.

A wooden tower, for use in drying fire hose for the Canal Zone fire department at Cristobal, is under construction.

The Pacific Dancing Club of Paraiso, will give a hard time ball on New Year's Eve.

The following vessels arrived at or departed from Balboa during the week ending December 25:

Arrivals—December 23, *Arica*, from Guayaquil, and *Mexico*, from south ports; December 24, *City of Sydney*, from San Francisco.

Departures—December 13, *Ecuador*, for Guayaquil; December 19, *Loa*, for south ports, *San Juan*, for San Francisco; *Chiriqui* and *Quito*, for intermediate ports.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a.m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m to 7 p. m.

Retail prices of cold storage provisions for the week beginning December 30:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	27
Chops	per lb	29
Cutlets	per lb	29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	*20
Beef—Suet	per lb	4
Soup	per lb	6
Stew	per lb	10
Corned	per lb., 12, 14,	16
Chuck roast	per lb	14
Pot roast	per lb	16
Rib-roast, second cut (not under 3½ pounds)	per lb	19
Rib-roast, first cut (not under 3 pounds)	per lb	21
Sirloin roast	per lb	22
Rump roast	per lb	22
Porterhouse roast	per lb	22
Steak, Chuck	per lb	15
Round	per lb	16
Rib	per lb	21
Sirloin	per lb	22
Porterhouse	per lb	22
Rump	per lb	22
Tenderloin	per lb	*24

MISCELLANEOUS

Livers—Beef	per lb	*8
Calf	each	65
Half	each	35
Sausage—Pork	per lb	*14
Bologna	per lb	*14
Frankfurter	per lb	*14
Leberwurst	per lb	*14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	*25
Oysters, in 1-quart kegs	keg	55
Oysters, in ½-gallon kegs	keg	90
Eggs, fresh	dozen	40

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, fatted	each	1.30
medium weight	each	90
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese	each	2.70

CURED AND PICKLED MEATS.

Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Sugar cured	per lb	20
Sugar-cured, sliced	per lb	§25
Half, for boiling	per lb	§21
Boiled	per lb	28
Hocks	per lb	‡8
Bacon—Breakfast, whole piece	per lb	25
Breakfast, sliced	per lb	27
Beef, salt, family	per lb	10
Pork, salt, family	per lb	15
Ox tongues	each	1.00
Pigs' feet	per lb	8
tongues	per lb	16

DAIRY PRODUCTS.

Butter—Prints, prime quality	per lb	*45
Cheese—Roquefort	per lb	45
Cheese—Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	28
Edam	each	1.05
Camembert	per lb	28
Neufchatel	each	6
Gouda	per lb	34
Parmesan	bottle	20
French cheese in tins—Camembert, Brie, Neufchatel	1-lb tin	20
Milk, Briarcliff	bottle	**25
Butter	bottle	**15

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	5
Lettuce	per hd 8, 11,	14
Potatoes, white	per lb	*3
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	3
Squash	per lb	†4
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	4
Cabbage	per lb	3
Lemons	dozen	24
Cranberries	per lb	10
Apples	per lb	5
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4
Pineapples	each	18

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending January 5, 1910 (75th meridian time):

DATE.	Low.	High.	Low.	High.
	A. M.	A. M.	P. M.	P. M.
December 30	....	5.59	12.17	6.28
December 31	12.42	6.44	1.05	7.13
January 1	1.30	7.28	1.48	7.58
January 2	2.18	8.16	2.35	8.45
January 3	4.01	9.58	4.17	10.31
January 4	4.57	11.00	5.13	11.20
		P. M.		
January 5	5.54	12.03	6.11	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal, Colon, and Balboa, during the week ending December 25, 1909, with supplies for the Isthmian Canal Commission:

Allianca, December 20, from New York, with 66 metallic caskets for Sanitary Department; 44 tons steel plates, 10 railroad frogs, 33 bundles rail braces, 650 kegs wire nails, 40 coils Manila rope, 27 tons chain, and 44 tons bolts and nuts for stock; 50,000 pounds bran for Ancon dairy; 154 tons steel castings for lock construction; 15 dredging sleeves and 100 pairs rubber boots for Atlantic Division; 32 tons material for Cocoli filtration plant; 2 towing machines, and 37 tons structural material for handling plant for Pacific Division.

Royal Exchange, December 21, from Gulfport, with 469 untreated piling for Atlantic Division.

Glenwood, December 22, from Baltimore, with 21 tons washers, 71 tons steel plates, etc., 62 tons black iron pipe, and 2,000 tons steel rails for stock; 31 tons steel castings for lock construction.

Abangarez, December 23, from New Orleans, with 30 creosoted piles for Atlahtic Division; 30,000 pounds rosin for manufacture of larvacide; 30,000 pounds cottonseed meal for Ancon dairy; 37,000 feet B. M. yellow pine lumber, and 4,700 feet B. M. hickory and ash lumber for Pacific Division.

Fitzclarence, December 24, from Puget Sound (at the port of Balboa), with 4,000 feet lumber for Pacific Division; 580,000 feet lumber for Atlantic Division; 1,418,000 feet lumber for car repairs; 104,000 feet lumber, and 20,000 cross-ties for stock.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., December 29, 1909.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Argue, Archie
Barnett, R. J.
Beaman, Donald H.
Brooks, Mary
Butterfield, Libbie
Chaltant, Mack
Crawford, Wm.
Deboski, Chas.
Donnelly, Daniel
Fahey, Michael J.
Flowers, J. L.
Flynn, F. D.
Frisco, Sig.
Hess, James A.
Hoover, Alan C.
Howard, Dr. M. A.
Howe, M. A.
Kennedy, Morris
Kirkpatrick, D. A.
Lyman, Albert K.
Marlo, L. B.
McAdam, Mrs. Kate
McCabe, F. J.
Mitchell, J. C.
Morgan, Geo. W.
Nupp, Warren
Owen, Wm.
Pearsson, P. T.
Ramsey, Eugene
Robertson, Ernest
Rogers, W. D.
Roy, Joe A.
Scott, George T.
Simon, D. C.
Stephens, T. P.
Surtees, Harry
Vickers, W. A.
Wheat, Mrs. E. Grant
Wickam, C. A.
Wood, Armand C.
Yeiser, Mrs. C. J.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Advance	P. R. R.	Monday	Dec. 27
Ancon	P. R. R.	Tuesday	Dec. 28
Panama	P. R. R.	Tuesday	Jan. 4
Allianca	P. R. R.	Monday	Jan. 10
Colon	P. R. R.	Monday	Jan. 17
Advance	P. R. R.	Saturday	Jan. 22
Panama	P. R. R.	Friday	Jan. 28
Allianca	P. R. R.	Thursday	Feb. 3
Colon	P. R. R.	Thursday	Feb. 10
Advance	P. R. R.	Wednesday	Feb. 16
Panama	P. R. R.	Wednesday	Feb. 23
Allianca	P. R. R.	Tuesday	Mar. 1
Colon	P. R. R.	Monday	Mar. 7

CRISTOBAL TO NEW YORK.

Colon	P. R. R.	Sunday	Jan. 2
Advance	P. R. R.	Saturday	Jan. 8
Panama	P. R. R.	Saturday	Jan. 15
Allianca	P. R. R.	Friday	Jan. 21
Colon	P. R. R.	Friday	Jan. 28
Advance	P. R. R.	Thursday	Feb. 3
Panama	P. R. R.	Wednesday	Feb. 9
Allianca	P. R. R.	Tuesday	Feb. 15
Colon	P. R. R.	Tuesday	Feb. 22
Advance	P. R. R.	Monday	Feb. 28
Panama	P. R. R.	Monday	Mar. 7
Allianca	P. R. R.	Sunday	Mar. 13
Colon	P. R. R.	Saturday	Mar. 19

*A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

NEW YORK TO COLON.

Magdalena	R.-M.	Saturday	Dec. 25
Prinz Joachim	H.-A.	Saturday	Jan. 1
Clyde	R.-M.	Saturday	Jan. 8
Prinz Aug. Wilhelm	H.-A.	Saturday	Jan. 15
Thames	R.-M.	Saturday	Jan. 22
Prinz Joachim	H.-A.	Saturday	Jan. 29
Atrato	R.-M.	Saturday	Feb. 5
Prinz Aug. Wilhelm	H.-A.	Saturday	Feb. 12
Tagus	R.-M.	Saturday	Feb. 19
Prinz Joachim	H.-A.	Saturday	Feb. 26
Oruba	R.-M.	Saturday	Mar. 5

COLON TO NEW YORK.

Prinz Aug. Wilhelm	H.-A.	Tuesday	Jan. 4
Thames	R.-M.	Wednesday	Jan. 12
Prinz Joachim	H.-A.	Tuesday	Jan. 18
Atrato	R.-M.	Wednesday	Jan. 26
Prinz Aug. Wilhelm	H.-A.	Tuesday	Feb. 1
Tagus	R.-M.	Wednesday	Feb. 9
Prinz Joachim	H.-A.	Tuesday	Feb. 15
Oruba	R.-M.	Wednesday	Feb. 23
Prinz Aug. Wilhelm	H.-A.	Tuesday	Mar. 1

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

NEW ORLEANS TO COLON.

Atenas	U.F.C.	Saturday	Dec. 25
Turrialba	U.F.C.	Saturday	Jan. 1
Abangarez	U.F.C.	Saturday	Jan. 8
Atenas	U.F.C.	Saturday	Jan. 15
Turrialba	U.F.C.	Saturday	Jan. 22
Abangarez	U.F.C.	Saturday	Jan. 29

COLON TO NEW ORLEANS.

Atenas	U.F.C.	Tuesday	Jan. 4
Turrialba	U F.C.	Tuesday	Jan. 11
Abangarez	U.F.C.	Tuesday	Jan. 18
Atenas	U.F.C.	Tuesday	Jan. 25
Turrialba	U.F.C.	Tuesday	Feb. 1
Abangarez	U.F.C.	Tuesday	Feb. 8

COLON TO BARBADOS, CALLING AT TRINIDAD.

Magdalena	R.-M.	Tuesday	Jan. 4

A ship of the United Fruit Company's line sails from the dock at Colon, at 3 p. m., Tuesday of each week.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Barbadian* for New Orleans, via Kingston, Ja., on or about January 3.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, JANUARY 5, 1910. No. 19.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications

THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Third Big Freshet of 1909.

Before the canal work and the main line of the Panama railroad had recovered from the flood of December 26-29 another rise occurred in the Chagres River on December 30 and 31. Heavy rains were prevalent in the lower valley during the 30th and in the upper valley the precipitation was unusually heavy. The conditions producing the freshet are indicated by the record-breaking rainfall at Porto Bello, referred to elsewhere in this issue of THE CANAL RECORD. The record of the rise of the freshet and its crest follows:

STATION.	BEGINNING.		CREST OF RISE.	
	Time.	Elevation.*	Time.	Elevation.*
Albajuela...	4 a. m., 30th	97.7	9.45 a.m., 30th	112.0
Gamboa.....	7 a. m., 30th	55.3	4 p. m., 30th	69.4
Bohio........	8 a. m., 30th	20.3	2 a. m., 31st	32.1
Gatun.......	2 p. m., 30th	15.5	9 a. m., 31st	17.7

*Feet above sea level.

Elevations at Bohio and Gatun were affected by the amount of water in the lake above Gatun Dam, which had not run off from the previous flood, and by the run-off from the Frijoles, Frijolito, and other small rivers. The tracks of the Panama railroad were flooded at Frijoles, and between that station and at other points between that station and Gatun, but little damage, in addition to that caused by the heavier freshet of December 26-29, resulted.

American Scrap Iron and Steel.

The collecting of American scrap iron and steel for shipment to the States in the cement ships *Ancon* and *Cristobal* has been begun. This scrap is such as has accumulated since the American occupation and is known to have originated in the United States. It consists, among other articles, of a number of car wheels. All this scrap, as is the case with the French scrap, that can be used to advantage on the Isthmus will be sent to Gorgona foundry, and the remainder will be loaded on cars and sent to Cristobal to the steamers. It will not be mixed at any time with French scrap, because it is entitled to free entry into the United States, whereas there is a duty of $1 a short ton on the French scrap. This duty is returned to the funds for Canal construction.

Requisition for Piling.

A requisition has been made in the United States for over $70,000 worth of piling to be purchased on competitive bid. About half of this amount is for the Central Division and the remainder for stock for the Quartermaster's Department. The number and length of piles required are as follows: 650, 35 feet long; 700, 40 feet long; 700, 45 feet long; 1,400, 50 feet long; 400, 55 feet long; 900, 60 feet long; 400, 65 feet long; 2,100, 70 feet long; 200, 75 feet long; in all, 7,450 piles, aggregating 416,250 feet. These piles are to be untreated, of long leaf yellow pine, cypress, or Douglas fir, free from bark, rot, and unsound knots; not less than 14 nor more than 20 inches in diameter at the large end, and not less than 8 inches in diameter at the small end for piles 55 feet and under, nor 7 inches for piles over 55 feet in length; not less than 60 per cent heart at the large, nor less than 40 per cent heart at the small end.

Heaviest Rainfall.

The heaviest rainfall for one day ever recorded on the Isthmus occurred in the twenty-four hours, from 10 a. m. on December 28, to 10 a. m., on December 29, when 10.86 inches fell at Porto Bello. The record for one month was also broken at Porto Bello in December, when 58.17 inches were recorded, an average of nearly two inches a day.

A comparison with other record rainfalls in twenty-four hours follows:

	Inches.
Gatun, December, 1906	10.48
Bohio, August, 1908	8.82
Cristobal, December, 1906	8.47
Alhajuela, December, 1906	8.19
Balboa, November, 1906	7.31
Empire, December, 1906	6.15

The rainfall for the month at Porto Bello, 58.17 inches, was over twice as great as the previous highest December record at that place—25.72 inches—in 1908.

The rainfall at Ancon in December, 1909 was 12.39 inches, the greatest of record for that month, the next largest being that of December, 1906—5.52 inches.

At Alhajuela also, all records were broken with 22.80 inches in the month, the highest previous December record being that of December, 1903—20.71 inches.

At Gatun, in December, 1909, 31.48 inches fell, which is nearly three times the average for the past four years.

At Cristobal the precipitation of 34.38 inches in December, 1909, was one of the greatest on record. The next highest December rainfall at this point was 30.94 inches in 1893. In November, 1862, the rainfall recorded for Cristobal was 43.01 inches, and in November, 1909, it was 42.50 inches.

A comparison of the December rainfall for three years follows:

STATION.	1907.	1908.	1909.	Years of record.	Station average.	No. rainy days—1909.
Atlantic Division—	*Ins.*	*Ins.*	*Ins.*			
Porto Bello	......	25.72	*58.17	1	19.62	27
Cristobal	9.36	9.07	34.38	39	11.93	29
Brazos Brook	5.57	9.48	36.45	3	10.41	30
Gatun	5.53	7.95	31.48	4	11.02	30
Monte Lirio	4.60	6.34	.....	1	5.47	....
Trinidad	2.88	7.23	18.49	1	5.06	30
Central Division—						
Bohio	2.88	3.40	20.53	15	9.87	29
Tabernilla	4.83	3.25	13.58	2	4.04	28
San Pablo	3.66	4.12	12.09	2	3.89	29
Gorgona	......	......	12.82	5	5.48	30
Gamboa	2.96	6.92	12.33	26	6.89	25
Empire	1.47	5.09	9.44	4	5.55	24
Camacho	2.18	7.80	10.54	3	6.50	26
Culebra	2.30	4.40	10.58	20	7.85	21
Pacific Division—						
Rio Grande	2.51	5.53	10.56	4	5.17	19
Pedro Miguel	......	10.27	10.30	1	......	22
Miraflores	......	......	14.53	....	......	17
Balboa	4.45	4.61	12.12	10	5.54	19
Ancon	3.46	4.16	12.39	12	3.21	20
Upper Chagres—						
Alhajuela	1.51	4.02	22.80	10	5.81	26
El Vigia	......	3.69	†10.90	1	......	15

*To 5 p. m., December 31.

†To 8 a. m., December 26, when station was washed away.

Concrete in Gatun Locks.

The total amount of concrete laid in Gatun Locks from the beginning of that work on August 24 to the end of the year 1909 was 116,186 cubic yards, and the progress by months is shown in the following table:

	Amount—Cu. yds.	Average per day—Cu. yds.
August (seven days)	1,298	185
September (26 days)	11,934	459
October (31 days)	29,378	948
November (24 days)	30,098	1,254
December (26 days)	43,478	1,672
Total	116,186	1,019

During the week ending January 1, 1910 the amounts of concrete placed were as follows:

	Cubic Yards.
December 27	1,386
December 28	1,670
December 29	1,786
December 30	1,586
December 31	1,710
January 1 (Holiday,)	
Total	8,138

No concrete was placed in the Spillway during the week.

Lock Work at Pedro Miguel.

The new 2-cubic yard stationary concrete mixer recently erected on the east bank of the Pedro Miguel Locks was placed in service on Wednesday, December 29, and will, for the present, furnish material in continuing the construction of the south guide wall. In the last issue of the CANAL RECORD, it

NOTES OF PROGRESS.

(*Continued.*)

was stated that the temporary handling plant consisted of two stationary mixers of two cubic yards capacity each, and three portable mixers of one cubic yard capacity each. The portable mixers have a capacity of but one-half cubic yard each, instead of one yard.

A total of 2,401½ cubic yards of concrete was added to lock construction at Pedro Miguel during the week ending January 1, 1910, and on December 31, a new record was established at that point for a single day's output, when 784½ cubic yards were mixed and placed. On Thursday, December 30, the output was small, owing to a temporary disarrangement of the pumping facilities, and a consequent accumulation of water in the lock pit.

The record for each of the five eight hour working days of the week ending January 1, 1910, follows:

	Cubic Yards.
December 27	335
December 28	499½
December 29	611
December 30	171½
December 31	784½
Total	2,401½
Daily average	480

The amount of concrete laid in the Pedro Miguel Locks from the beginning of work on September 1, 1909, to December 31, 1909, inclusive, was as follows:

	Cubic Yards.
September	2,369½
October	8,396¼
November	10,080½
December	13,148½
Total	33,994¾

Increase in Cement Deliveries.

On account of the constantly increasing amount of concrete laid in the locks at Gatun, an order has been sent to the States to increase the shipments of cement in barrels from 1,200 barrels a day to 2,200. The shipment in bags remains at 1,000 barrels a day, making the amount to be delivered on the Isthmus by the cement ships equal to 3,200 barrels a day.

Pacific Division Sand Service.

A total of 18,842 cubic yards of sand was dredged at Point Chamé and delivered at the Balboa sand dock during the month of December. Of this amount, 11,965 cubic yards went to the Atlantic Division, 6,222 cubic yards to the Pacific Division, 205 cubic yards to the Central Division, 425 cubic yards to the Panama Railroad Company, while 25 cubic yards were used at the Balboa shipways. The total shipments by rail aggregated 1,109 carloads. Practically all the deliveries from sand barges were effected by locomotive crane, as the first of three electrically-operated unloading cranes has not yet been placed in service.

Fossils from Culebra Cut.

A collection of fossils found in Culebra Cut, opposite the village of Culebra, has been presented to the Commission by Joseph David, a Central Division foreman. The fossils will be sent to the Smithsonian Institution in Washington, in accordance with a request made some months ago. The fossil of most interest to the laymen who have seen the collection is shaped like a duck's head, with the bill, back of the head, and eyes clearly defined, but with part of one eye missing. It is about 18 inches long and weighs 28 pounds. It was found by Mr. David on October 18, 1909 in one of the small slides on the east bank of the Cut, about one thousand feet north of Gold Hill, and apparently had been covered by only a few feet of earth before the material began to slide. It is thought to be the head of some prehistoric bird. The other fossils were found in about the same locality, and include what are supposed to be a cocoanut, a mango, an orange, and an alligator pear.

Corozal Commissary.

Work has been started on the new commissary at Corozal, located alongside the Panama railroad tracks, near the Commission hotel. It will be 75 feet long, 40 feet wide, and will have a 10-foot platform for unloading purposes along the track side and across the north end. The section for the display and sale of goods will be 45 feet long and 40 feet wide, with a raised platform in the center. The remainder of the space, 30 by 40 feet, will be used as a store room. The building is under erection by contract, and will be ready for occupancy about the first of February.

Laborers from Trinidad.

Two hundred West Indian negroes recruited in Trinidad for the Canal labor force are expected to arrive at Colon on the Royal Mail steamer *Clyde* on January 10. They were recruited by the Barbados recruiting agent, and were drawn from Trinidad because of a temporary shortage of labor in Barbados, due to the cane harvest. Since the beginning of the work by the Americans over a thousand laborers have been recruited in Trinidad.

Applications for Hunting Licenses.

Persons desiring licenses to hunt in the Canal Zone should make application to the Treasurer of the Canal Zone, Empire, giving name, address (including house number), occupation and metal check number if employed by the Panama Railroad Company or the Isthmian Canal Commission.

Notice to Masons.

A roster to contain the names of all master masons on the Isthmus is being compiled by the Masonic Advisory Board, consisting of one representative from each Masonic club. All master masons, whose names have not been forwarded to the Advisory Board, are requested to send their names, lodge numbers, and location, together with their addresses on the Isthmus and in the States before January 22, to any of the following members of the Board: J. B. Fields, Las Cascadas; G. D. Bliss, Pedro Miguel; F. M. Baker, Gatun; F. A. Duvall, Gorgona; C. G. Carty, Cristobal; Rev. W. H. Decker, Empire; Harry F. Page, Tabernilla; C. P. Hoffman, Ancon.

Masonic Banquet.

The banquet which was to have been given by Sojourner lodge, No. 874, A. F. and A. M., of Colon, on Saturday, January 1, in honor of St. John's Day, was postponed, on account of the uncertainty of the train service, until Saturday evening, January 8, at 8.30 o'clock. It will be held in the Commission hotel at Cristobal. Arrangements have been made for a special train, for the benefit of those who live in the Zone towns, which will leave Colon at midnight.

ELI D. SIMS, I. P. M.

LARGE ORDER FOR CASTINGS.

Linings for Stoney Gate Valve Chambers to be Made at Gorgona Foundry.

An order has been placed at Gorgona foundry for 1,791,504 pounds of gray iron castings in the form of plates one inch thick, to be used as lining for the operating Stoney gate valve chambers in the main culverts of the three walls of all the locks. These castings will protect that portion of the culverts immediately below the operating valves. At the valves the culverts will be divided into two separate channels by a dividing pier, the channels thus formed being symmetrical about the center line of the culvert. The valves are to be opened slowly in order to control the flow of the water in the lock chambers, so as not to disturb vessels in the chambers. When the valves are raised a slight distance a very great velocity is imparted to the water passing through, quite like the effect of a nozzle on a hose. The cast iron plates are to protect the concrete that otherwise would be impinged upon by this water. As the valve is opened further the velocity becomes less and less, and on this account the lining at the top of the channels does not extend so far down stream as that on the bottom.

The space in the channels to be lined with these castings is 8 feet long at the bottom and 4 feet long at the top; 8 feet wide and 18 feet high. The side castings are in three pieces, varying between 8 feet long at the bottom and 4 feet long at the top. The floor castings are in two pieces, each 8 feet long, and the two together cover the width of the opening, which is 8 feet. The top casting to protect the roof is in one piece, 4 feet long, and covers the whole 8-foot width of the opening. The side castings lap over each other and over the top and bottom castings and all are securely anchored to the concrete by steel anchor bolts. The castings on the dividing pier are anchored through the concrete pier to each other. All these anchors grip the castings in flanges on the concrete side, leaving a perfectly smooth and flush surface on the outside for the water to flow past.

In each of the upper locks there will be twelve sets of these chambers that will require lining, making 36 sets for all the upper locks. The intermediate locks at Gatun will require 8 sets; the lower locks at Gatun, 8; and the lower locks at Miraflores, 6, a total of 58 sets of valve chambers for all the locks, with two chambers in each set. The order for each set of castings is as follows:

	Pounds.
4 side plates	5,580
2 side plates	3,484
2 side plates	4,320
2 top plates	3,240
2 floor plates	2,860
2 floor plates	3,600
2 side plates	3,484
2 side plates	4,320
Total for each set	30,888
Total for 58 sets	1,791,504

Missing Man.

Information is desired respecting the whereabouts of Thomas Wright, who is said to have left Brazil for the Canal Zone about October 1, 1909. Information should be addressed to the American Consul, Para, Brazil.

A shelter for the accommodation of passengers taking the trains to Balboa has been erected by the Panama Railroad Company, across the street from Pueblo Nuevo, in Panama, and adjacent to the point where the trains from Balboa arrive and depart.

CANAL ZONE MARKETS.

Nine Villages Provided With Them—Cost of Buildings and Revenue Received.

There are now nine public markets in operation in the Canal Zone, as follows: Cristobal, Gatun, Tabernilla, Gorgona, Las Cascadas, Empire, Culebra, Paraiso, and Pedro Miguel. The last market to be established was that located in the native town at Gatun, which was opened for business on November 1. Over 30 applications for space in this market were received, or more than double the number that could be accommodated.

The operations of the Canal Zone markets during the fiscal year ending June 30, 1909, show that the Empire market has been the largest revenue producer, with Gorgona second, and Culebra third. The receipts from rents at these three markets, however, do not necessarily indicate a corresponding ratio in the matter of profits. The Empire and Gorgona markets show up well in this respect, but the Culebra market is handicapped by an unusually heavy investment account, amounting to nearly $9,000, which is more than the combined cost of the Las Cascadas, Empire, Paraiso, Pedro Miguel, and Cristobal markets. Hence, the Pedro Miguel market with a total investment of only $1,096.73, and with revenues from rentals during the past fiscal year of $396, makes a better showing than the Culebra market with its $9,000 investment, and revenues from rentals during the fiscal year of $571.63. The site of the Culebra market was formerly a small knob, which had to be cut away, hand labor being employed. This single item of expense figures in the investment account at about $3,000, and in addition, sewer connections had to be made at a considerable cost.

As a rule the smaller markets have made the better showing. The fluctuations in the number of leases at these points from month to month have been decidedly less, as shown in the case of Pedro Miguel where the receipts from rents for nine months of the fiscal year were exactly $32 per month, and in two of the remaining months $30, whereas at Culebra the rents in September, 1908 aggregated $61.82, and from that figure gradually decreased month by month until in June, 1909, the revenues amounted to but $33.76. Empire affords another illustration of the fluctuation in business, every month in the year showing a varying revenue, while at Las Cascadas the receipts were stationary for eleven months of the fiscal year.

One of the chief obstacles with which the Zone markets have had to contend is the miscellaneous vending on the outside. There is no license fee imposed on the sale of foodstuffs in the Canal Zone, therefore, basket vendors of fruits, vegetables and sweet breads have a considerable advantage over the stallkeepers in the public markets. This outside selling operates to a greater disadvantage in the Zone towns where there is a very large native and colored population, than in the smaller ones. At Culebra and Cristobal especially, there is an unusually large number of basket vendors, whose sales reduce the business of the public markets in those places which depend almost wholly on the support of the colored residents. There are one or two instances where an outside vendor pays for market space for the sole purpose of storing his wares during the night. The commissaries affect market sales to a considerable degree, especially at Culebra and Cristobal.

The Division of Public Works has charge of all the public markets in the Zone, and a market inspector is employed whose duties are to see that the market regulations are being observed, and who makes the assignments to space at the beginning of each month. Day watchmen are employed at the Culebra, Empire and Gorgona markets. The markets at Culebra and Gorgona are equipped with electric lights, but the other markets are unlighted. Collections are made by the District Tax Collectors.

In July, 1908, the rentals at the Pedro Miguel, Paraiso, Las Cascadas and Tabernilla markets were reduced from $3 to $2 United States currency per stall, per month. The Cristobal market was opened in December, 1908; the price of the stalls was placed at $4 United States currency, and has remained the same. At the Gorgona market there is a space charge of five cents United States currency per square foot, and at the Culebra and Empire markets the same space charge obtains, together with a charge of $1 United States currency per month for the use of tables of standard size.

The revenue by months for each market in operation during the fiscal year ending June 30, 1909, was as follows:

PLACE.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Cristobal	....	....	....	....	....	$48.00	$42.00	$32.00	$22.00	$22.00	$16.00	$16.00	$198.00
Tabernilla....	$18.00	$16.00	$17.00	$20.00	$18.00	20.00	22.00	22.00	22.00	23.00	20.00	18.00	236.00
Gorgona.......	91.50	78.50	81.00	89.50	93.00	88.00	88.00	88.00	77.00	79.50	69.25	71.25	994.50
Las Cascadas..	21.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	373.00
Empire........	92.28	99.10	105.00	101.52	105.37	123.15	128.00	117.80	115.45	106.90	109.65	106.55	1,310.77
Culebra.......	57.55	58.30	61.82	59.60	51.55	46.45	46.45	44.45	41.45	35.35	34.90	33.76	571.63
Paraiso........	36.00	28.00	27.00	24.00	22.00	22.10	25.00	25.00	26.00	24.00	25.00	24.00	308.10
Pedro Miguel..	48.00	32.00	32.00	30.00	32.00	32.00	32.00	30.00	32.00	32.00	32.00	32.00	396.00
Total	$364.33	$343.90	$355.82	$356.62	$353.92	$411.70	$415.45	$391.25	$367.90	$354.75	$338.80	$333.56	$4,388.00

The drafting forces of the Commission have assigned no type number to the public market buildings. They are designated by the number and size of the stalls. The approximate cost of the various markets in the Zone; the rental charge for space at each place, and the number and size of the stalls are shown in the following table:

PLACE.	Approximate cost.	Rental charge for space.	No. of stalls.	Size of stalls.
Cristobal..........	$2,556.70	†$4.00	16	8 by 8 feet.
Gatun.............	*1,545.00	† 4.00	16	8 by 8 feet.
Tabernilla.........	1,295.33	† 2.00	16	6 by 6 feet.
Gorgona...........	‡1,598.43	**.05	Sq. ft.	....
Empire............	2,672.59	**.05	***	***
Culebra...........	8,928.28	**.05	***	***
Paraiso............	1,360.22	†2.00	16	6 by 6 feet.
Pedro Miguel.....	1,096.73	†2.00	16	6 by 6 feet.
Las Cascadas......	1,225.49	†2.00	16	6 by 6 feet.

*Estimated cost. †Rent for stalls. ‡Used as a market building in French times. Repaired to meet modern requirements. Amount represents cost of repairs only. **Rent for square foot space. ***Divided into square foot space and tables.

New Freight Rate for Employes.

Effective January 1, 1910, Commission and Panama railroad employes will be granted a freight rate over the Panama railroad on household goods, personal effects, etc., of $2.25 per ton, when properly authorized.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Hotel Tivoli, Ancon, on Sunday, January 9, 1910, at 7.30 p. m. The program follows:

1 March—*Chicago Tribune*..............Chambers
2 Selection—*Marcelle*......................Luders
3 Paso Doble—*The First of October*.Santos Jorge A.
4 Waltz—*Italian Nights*... ....Tobani
5 Duet for Flute and Clarinet—*Lo, Hear the Gentle Lark*..............................Bishop
Messrs. Kimball and Gray,
6 Potpourri of Southern Songs.... ....Lampe
Introducing "Swanee River," "Listen to the Mocking Bird," "My Old Kentucky Home," "Arkansas Traveler," "Massa's in the Cold, Cold Ground," "Zip Coon," "Old Black Joe," and "Dixie."
7 Overture—*Concert in F*.................Kalliwoda
8 Morceau Elegante—*Golden Blonde*.....Eilenberg
9 { a Rag Novellette—*Dope*.................Powell
{ b Barn Dance—*Stack of Fun*..............Rolfe
10 March—*In Storm and Sunshine*............Heed

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Gorgona on Sunday, January 16, at 6 p. m.

CONSTRUCTING GATUN DAM.

Additional Equipment Ordered for Transporting Spoil.

An order will presently be placed in the States for 250 additional dump cars similar to the large ones now in use on the Isthmus. They will be made of steel, with side doors reinforced with tee rails, dumping process to be by air, capacity 19 cubic yards when level full. Of these cars, 200 will be used in hauling material from the Central Division to be dumped on the toes of Gatun Dam. The work of replacing the trestles carried out by the flood of November has been begun, and new trestles will be commenced presently, in order that the dumping of spoil on the west side of the river may be increased during the dry season. Requisition has been made for a spreading machine to assist in spreading the material dumped on the toes, and for a track shifter.

While the excavation by the Central Division at Bohio and Buena Vista was in progress, from 3,000 to 3,500 cubic yards of material were sent daily to Gatun and deposited on the south toe. These cuts were completed by November 11, and, as a substitute for the material formerly furnished from these sources, five trainloads a day of run-of-cut material are now sent from Culebra Cut, the service having begun on December 8. This is in addition to the five trainloads per day of Bas Obispo rock furnished by the Central Division for the construction of Gatun Dam.

The south toe of the Dam, east of the Spillway, has been joined to Spillway Hill by filling the trestle recently completed at elevation 60 feet above sea level. A junction has also been effected with lock site hill. This section of the toe is being raised. The surface of the water in the hydraulic fill, between the north and south toes, and the locks and the Spillway, is at elevation 36 feet above sea level.

Bakery Regulations.

The Health Office at Colon has had printed and posted the interpretation of section 2 of the sanitary rules and regulations for the city of Colon, insofar as it applies to bakeries.

SOCIAL LIFE OF THE ZONE.

Women's Clubs.

William Jennings Bryan and Judge Lorin C. Collins will make addresses at the meeting of the Canal Zone Federation of Women's Clubs to be held in Cristobal on Saturday, January 8. By the courtesy of the Panama railroad, a special car will be attached to the trains leaving Panama at 6.35 and 10.45 a.m., and returning, leaving Colon at 4.35 p. m. Transportation will be furnished to all club women wishing to attend the meeting. A program of music and addresses has been arranged for the afternoon session.

At a special meeting of the Ancon Woman's Club held in the clubroom on Wednesday, December 29, it was decided to abandon all regular club work and concentrate the efforts of the organization on the extension of the library. Steps will be taken to raise funds for the purchase of new books, and the money in the treasury will be expended for the same purpose. Some of the club property will be sold. A committee for the purpose of organizing a library club will be formed. The Wednesday evening informal dances will be continued.

The monthly business meeting of the Cristobal Woman's Club was held in the clubhouse on Wednesday afternoon, December 29. As a result of the bazaar held recently, under the auspices of the home department, sums of money for the Christmas celebration were given each of the Protestant churches in Cristobal and Colon, the Salvation Army Social Institute, and the school for negro children in Colon. It was decided to have roll call at each business meeting, each member to answer with an item of current interest. At the close of the business meeting, Mrs. Carl H. Elliott spoke on conditions in Nicaragua, and Mrs. Albert Herman on taxation in England. At the meeting on January 5, Dr. William Cross will speak on Mexico. The complimentary concert which was to have taken place on January 5 has been postponed and will be held at the Commission clubhouse on Wednesday evening, January 19.

A business meeting of the Empire Woman's Club was held in the Commission clubhouse on Thursday afternoon, December 23. Mrs. Thomas E. Brown, jr., was the guest and speaker of the afternoon. Her address was on the making of club work a pleasure rather than a duty. The proceeds from the recent sale and dance held by the club amounted to $175.

A business meeting of the Pedro Miguel Woman's Club was held in the Commission hotel on Wednesday, December 22. On the same afternoon, the social meeting of the Paraiso club was held in the lodge hall, Paraiso.

Miscellaneous Events.

It is estimated that gifts were distributed to 1,500 American children at the Christmas celebrations held in the various villages in the Canal Zone. This number is double the enrollment in the public schools and Sunday schools and included small children and infants. Entertainments with Christmas trees were held on December 24 in the four clubhouses operated by the Young Men's Christian Association, at Cristobal, Gorgona, Empire, and Culebra, and in Commission buildings at Las Cascadas, Paraiso, Corozal, and Balboa. During the week entertainments were held for the children by various Sunday schools and other organizations.

The proceeds of the vaudeville entertainment given by the Empire Social Club on December 17, were $145. One third of this sum was forwarded to the treasury of the Canal Zone Red Cross. After defraying the expenses incidental to the entertainment, a small sum was retained in the club for the running expenses of the organization. The Empire Social Club was organized December 9. The object of the organization is to hold or to arrange excursions and outings from time to time, and to promote social intercourse among the members. The officers are: Perry F. Brown, president; R. H. Davies, vice-president; H. H. McAnelly, secretary; F. W. Conner, treasurer. There are 24 members.

Under the auspices of Ancon Court, No. 7, Independent Order of Panamanian Kangaroos, a New Year's dance was held at Ancon hall on December 31. Special trains were run from Corozal and Balboa.

The Pacific Social Club at Paraiso, gave a "Hard Times" ball on New Year's Eve.

There was an attendance of about 200 at the flower dance held by the Cristobal chapter of the Canal Zone Branch, Red Cross, at the Lincoln House, Colon, on New Year's Eve. Many of the dancers appeared in costume. The hall was tastefully decorated with palms, flags, and Red Cross emblems.

The regular dance of the Tivoli Club, Saturday night, January 8, has been postponed on account of the lecture by William J. Bryan at the National Theatre, which takes place on that date.

Church and Sunday School Work.

Bishop Frank M. Bristol will preach at the Methodist Episcopal church, east end of Central Avenue, Panama, next Sunday, January 9, at 10 a. m., and at Gatun on Sunday evening at 7.30.

The quarterly meeting of the Isthmian Sunday School Association will be held in the Commission chapel at Gorgona on Sunday afternoon, January 9, at 2.30 o'clock. Each of the twelve Sunday schools federated in the association is entitled to representation by two delegates. Other members of the Sunday school may attend the meeting. The annual convention of the association will take place at Empire on Sunday, January 16. The program will be announced later.

Married.

DAVIDSON-KYTE—At the home of the bride's parents in Corozal, C. Z., on Thanksgiving night, November 24, 1909, Margaret E. Kyte, daughter of Mr. and Mrs. J. P. Kyte, to Mr. Edward H. Davidson, Rev. William Crawford officiating.

HILL-WHITNEY—At Cristobal, C. Z., on Friday, December 31, 1909, Louise Hammons Whitney of Minneapolis, Minn., to Charles Wallace Hill of Cristobal, formerly of Pittsburg, Pa., Rev. Carl H. Elliott officiating.

HEVERLY-MARRION—At the Union Church in Cristobal, C. Z., on December 25, 1909, at 8.30 a. m., Eva Fern Marrion to John Harvey Heverly of Cristobal, Rev. Carl H. Elliott officiating.

KUNCE-CANTRELL—At the Union Church in Cristobal, C. Z., on Thursday, December 30, 1909, at 2 p. m., Myra Cantrell to Ammon Lothario Kunce of San Pablo, C. Z., Rev. Carl H. Elliott officiating.

LOST—One pair gold mounted eye glasses, from train window on first train from Colon, on Sunday, January 2, just north of San Pablo. Finder please notify R. V. French, care of Subsistence Department, Cristobal, C. Z.

RED CROSS.

Renewal of Membership—Report of Canal Zone Branch.

CULEBRA, C. Z., December 29, 1909.

Local Chairmen, Canal Zone Branch, Red Cross:—

A notice was recently published to the effect that the annual subscriptions for membership in the Canal Zone Branch of the American National Red Cross would expire February 28, 1910, and requesting renewals for the succeeding year. It was suggested that subscriptions be sent to Major Chas. F. Mason, Treasurer, Ancon, or handed to the District Quartermaster. The District Quartermasters were mentioned as a matter of local convenience, as it was desired to make the transmission of renewals as practicable and convenient as possible for members. It is hoped, however, that the Local Branches will take up the matter actively, and that the chairmen will secure all the subscriptions possible and send them to Major Mason.

The Canal Zone Branch of the Red Cross has had a very prosperous year. It is earnestly hoped that the membership will not decrease and your assistance is requested to this end.

Immediately after February 1 a general meeting is contemplated for the election of officers for the ensuing year.

Yours very truly,
C. A. DEVOL,
President, Canal Zone Branch.

The following report was read at the National Red Cross convention held in Washington on December 7, 1909:

CULEBRA, C. Z., November 24, 1909.

To the American National Red Cross,
Washington, D. C.

Herewith, I beg to hand you report of the Canal Zone Branch of the American National Red Cross for the period ending October 31, 1909:

The organization of the Canal Zone Branch was effected on January 17, 1909, at a meeting held at Ancon, Canal Zone. The officers in the Canal Zone are as follows:

Lieut.-Col. C. A. Devol, U. S. A., President.
Lieut.-Col. John L. Phillips, Treasurer.
Miss J. Macklin Beattie, Secretary.
Executive Committee—Lieut.-Col. John L. Phillips, U. S. A., Mrs. Lorin C. Collins, Major Chester Harding, U. S. A., Mr. A. Bruce Minear (absent.)

The Canal Zone Branch now numbers 1,333 members.

It is gratifying to report that no great general disaster has ever occurred in the Canal Zone. It is necessary, however, from time to time, to render aid in cases requiring immediate relief, which relief is not permitted from any funds appropriated by Congress for the construction of the Panama Canal, the cases so far having been usually the death of an employe by accident or otherwise, leaving his family in a stranded condition in the Canal Zone. Under special permission from the Central Committee, these cases have been taken care of as they arose, and consequent suffering prevented.

The Canal Zone branch has also instituted a series of lectures on "First Aid," delivered by members of the Red Cross who are also District Physicians along the line of the canal, to members of the Police and Fire Departments. This work will, it is thought, be of considerable assistance to the already well equipped Medical Department on the Isthmus.

The Canal Zone Branch has spent $500 in its relief work, the balance on hand on October 31 being $2,112.17, but which has since been decreased by remittance of one-half the money received for annual dues to the Treasurer of the American National Red Cross. In addition to membership dues, the receipts of this Branch have been augmented by various entertainments given in the different districts for the benefit of the Canal Zone Branch, the largest and most successful having been a play given under the auspices of the Gorgona Branch by a local dramatic society, in the city of Panama, from which the net receipts amounted to $470.

Respectfully submitted,
C. A. DEVOL,
President, Canal Zone Branch.

BASEBALL.

ISTHMIAN LEAGUE.

RESULT OF GAME, JANUARY 2.

At Empire—Gorgona, 3; Marines, 2.

STANDING OF CLUBS.

	P.	W.	L.	Pc.		P.	W.	L.	Pc.
Gorgona...	6	5	1	.833	Empire....	4	2	2	.500
Ancon......	3	2	1	.667	Marines....	5	0	5	.000

SCHEDULE FOR JANUARY 9:

Marines at Empire.
Gorgona at Ancon.

Rain prevented the baseball game between Ancon and Empire at the Ancon park on New Year's Day. The grand stand was well filled with people, but as it had begun to rain steadily when the hour of play arrived, the umpire announced "No game." The Gorgona team played the Marines on Sunday, January 2, and won by a close margin. The official score is as follows:

Gorgona.	R.	H.	PO.	A.	E.	Marines.	R.	H.	PO.	A.	E.
Dougherty, 2b	0	2	0	1	0	McGuire, 1b..	1	1	8	0	0
Magee, lf.....	1	2	1	0	0	Hurrle, lf.....	1	0	1	0	0
Barney, c.....	0	1	11	2	1	Lubomski, cf.	0	0	1	0	0
Wright, 1b....	0	0	9	1	1	Snyder, 2b....	0	2	2	2	1
Herring, rf...	1	1	1	1	0	Scarff, ss......	0	0	0	1	2
Cole, ss.......	0	1	1	2	0	Burke, rf......	0	0	0	0	0
Clements, cf..	1	1	2	0	0	Volman, 3b....	0	1	6	3	1
Emery, 3b....	0	0	2	1	0	Conway, c	0	0	7	3	0
Case, p.......	0	1	0	3	0	Munsen, p....	0	0	0	1	0
Totals......	3	9	27	11	2	Totals........	2	4	25*	10	4

*One out when winning run was scored.

Gorgona................	0	0	0	1	0	0	0	1	1—3
Marines................	0	0	0	0	0	0	0	0	2—2

Runs earned—Gorgona, 1; Marines, 1. Two base hit—Magee. Stolen bases—Barney, Herring, Clements, Lubomski. Bases on balls—Off Case, 1; off Munsen, 1. Struck out—By Case, 8; by Munsen, 5. Hit by pitcher—By Case, 1. Left on bases—Gorgona, 8; Marines, 3. Double plays—Case to Wright to Emery; Volman to McGuire. Umpire—Irwin. Time of game 1 hour and 55 minutes. Scorer—W. H. Hall.

The official scores of the games on Christmas Day between Ancon and Gorgona at Ancon, and between Empire and the Marines at Empire, are as follows:

Ancon.	R.	H.	PO.	A.	E.	Gorgona.	R.	H.	PO.	A.	E.
Pearman, 3b.	0	1	5	1	1	Dougherty, 2b	2	2	2	2	0
Nygren, 1b..	1	1	7	1	1	Magee, lf.....	2	3	4	1	1
Keller, lf.....	1	1	3	0	0	Barney, c.....	2	2	7	1	0
Smith, 2b....	1	2	2	1	0	Wright, 1b....	1	1	8	1	0
Tinsley, ss...	2	3	2	2	1	Herring, rf....	0	1	1	1	0
Hunter, cf...	1	1	1	0	0	Cole, ss........	1	1	2	1	2
Yingling, c..	2	3	7	1	0	Clements, cf..	1	2	1	0	0
Poltrino, rf..	0	2	0	0	0	Emery, 3b....	0	2	1	6	1
Lawler, p....	0	0	0	12	0	Case, p........	0	1	1	6	1
Total.......	8	14	27	18	3	Total.........	9	15	27	19	5

Ancon....................	0	0	4	0	1	0	3	0	0—8
Gorgona..................	1	0	3	0	2	0	1	2	0—9

Runs earned—Ancon 4; Gorgona 5. Two base hits—Smith, Yingling, Magee, Herring, Clements. Three base hits—Yingling. Home runs—Yingling, Magee. Sacrifice hit—Case. Stolen bases—Tinsley, Poltrino, Barney, Cole, Clements. Bases on balls—Off Lawler, 3; off Case, 3. Struck out—By Lawler, 6; by Case, 4. Hit by pitcher—By Lawler 1. Left on bases—Ancon, 9; Gorgona, 9. Double plays—Case to Barney to Wright; Wright to Barney; Tinsley to Nygren to Pearman. Umpire—Irwin. Time of game—Two hours and fifteen minutes. Scorer—A. T. Rosenbaum.

Empire.	R.	H.	PO.	A.	E.	Marines.	R.	H.	PO.	A.	E.
Bryan, ss.....	0	1	4	1	0	McGuire, lf...	0	1	1	0	0
More, c.......	1	0	8	4	0	Snyder, 1b....	0	0	5	2	1
S. Fluharty, 2b, p.......	1	1	0	3	1	McKenzie, 2b.	0	0	3	0	0
Bell, 1b......	2	2	10	1	0	Heinz, cf.....	0	0	1	0	0
E. Fluh'ty, lf.	0	2	2	0	0	Volman, 3b...	1	0	2	2	0
Toone, 3b. ..	1	1	3	2	1	Scarff, ss.....	0	1	4	2	1
Herring, rf..	0	1	0	0	0	Todd, c.......	0	0	5	4	1
Murphy, cf..	0	0	0	0	0	Munsen, p....	0	2	2	4	1
Willis, p.....	0	0	0	0	3	Cowens, rf....	0	0	0	0	0
Lyons, 2b....	0	0	0	0	0	Totals.......	1	4	23*	14	4
Totals......	5	8	27	11	5						

*Toone out, bunting foul on third strike.

Empire..................	0	0	0	1	0	0	1	3	x—5
Marines.................	0	0	0	1	0	0	0	0	0—1

Runs earned—Empire 3. Two base hit—McGuire. Stolen bases—Bryan, Bell, E. Fluharty (3), Toone (2), Herring. Base on balls—Off Munsen, 3; off Willis, 1. Struck out—By Munsen, 4; by Willis, 2; by Fluharty, 5. Hit by pitcher—McKenzie, Volman, Bell. Left on bases—Marines, 5; Empire, 4. Umpire—Murray. Time of game—Two hours and ten minutes. Scorer—W. H. Hall.

Atlantic League.

Two games of baseball will be played at the new Colon park on Sunday, January 9, weather permitting One game will be between the Colon and Civil Administration teams, and the other between the Panama railroad and Commissary-Subsistence teams. One ticket will entitle the holder to witness both contests. The first game will be called at 2.30 p. m., sharp.

PERSONAL.

William Jennings Bryan, accompanied by Mrs. Bryan and two daughters, is at the Hotel Tivoli en route to South America. While waiting for a steamer for Peru he will give a series of lectures, according to an arrangement with the Y. M. C. A., a schedule of which is published in the Commission clubhouse column. On the afternoon of January 8 he will make an address at the meeting of the Canal Zone Federation of Women's Clubs at Cristobal.

Mr. W. B. Corse of Garrison, New York, who has been appointed Resident Engineer in the Pacific Division, with headquarters at Corozal, in place of Mr. A. I. Campbell, resigned, arrived on the Isthmus with his family, on the *Advance*, on Tuesday, January 4. He was formerly employed on the New York City water works, and has recently been connected with the Pennsylvania Railroad's tunnel and terminal system in that city.

New Library in Colon.

A public library has been opened in the city of Colon for the use of citizens, pupils of the public schools, and American residents. The library occupies three rooms on the upper floor of the Government building. These consist of a large reading room, equipped with sectional bookcases, a study adjoining, and a room where newspapers and periodicals are provided. There are 3,000 volumes, including a selection of Spanish works, a number of French and German books, and 700 English books. The English department contains dictionaries and reference books; standard works of American history, and English and American fiction. There are also standard works of juvenile literature. The library movement is the outcome of prizes offered in 1907 by the American Consul, Dr. James C. Kellogg, to the pupils in the Government schools, for essays in English. While the prize essays were creditable, a lack of facility for the preparation and study of the subjects was evident. Dr. Kellogg communicated with Mr. Andrew Carnegie, relating the circumstance, and recommending the institution of a free public library. Mr. Carnegie responded with a subscription of $1,000 toward the purpose. Local merchants subscribed $800, and approximately $1,100 has been appropriated by the municipal government. The working expenses of the library, including the salary of a librarian, are met by the municipality. The library is open daily from 9 to 11 a. m., and from 3 to 5 p. m., and on Sundays from 2 to 6 p. m. Evening hours will be instituted as soon as electric lights are installed.

Civil Service Examination.

A civil service examination for the position of immigrant inspector will be held at Culebra on or about January 13. Applicants should communicate at once with John K. Baxter, office of the Chairman, Culebra.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

The pool and billiard tables are being recovered and will soon be in good shape. Plans are under way for a tournament to begin in the near future.

There is still room for men to enter the gymnasium classes. Any Y. M. C. A. member is cordially invited to come into these classes. They are held on Monday and Wednesday evenings.

EMPIRE.

The Camera club dark room is completed and ready for use. The club meets on Wednesday evenings. All members of the Y. M. C. A. are eligible to membership, the entrance fee being $1 and monthly dues 25 cents. The dark room and Camera club will afford the members opportunity to become familiar with the art of picture-making.

The Bible class met Wednesday night of this week, instead of Thursday, on account of the Bryan lecture coming on Thursday night.

GORGONA.

With Mr. William White of Camp Elliott as instructor, the members of the boys' department have organized themselves into a military brigade, which will be known as the Cadet club. Besides the regular United States Army drills the boys will receive the physical exercises which are given the Marines at Camp Elliott. Later on in the season the boys will give a public exhibition of their work.

Mr. T. S. Looz, assistant secretary, who was married on December 9, to Miss Louise Rush of Los Angeles, is expected back on the Isthmus in a few days.

Durand and Otis won the two-man team "Rag-Time" bowling tournament with a score of 1,070. There were 53 team entries. The games totalling 1,000 points, or over, are as follows:

Durand and Otis....	1,070
Ridge and Buchanan....	1,059
Durand and Roper....	1,059
Varenkamp and Otis....	1,049
Sexton and King....	1,045
Cram and King....	1,044
Hinckley and Cram....	1,042
Durand and King....	1,039
Humphrey and King....	1,036
Hinckley and Buchanan....	1,023
Durand and Buchanan....	1,020
Varenkamp and Buchanan....	1,016
Otis and King....	1,008
Cram and Buchanan....	1,002

Mr. J. E. Carpenter has been appointed pool room attendant.

An unusually large number of people attended the entertainment held New Year's night at the clubhouse, when the following excellent program was rendered: Selection by the Marine band; solo, Mrs. A. O. Ludwig; piano solo, Mrs. Shivers; selection by the Marine band; fancy tumbling, Evans and Epping; mandolin quartet; bones, "Buck" Brodie; solo, Mrs. Pearson; parallel bars, Ludwig and Bath; selection by the Marine band; sense and nonsense, Jones; selection by the Marine band.

GENERAL NOTES.

Hon. William Jennings Bryan will lecture under the auspices of the Y. M. C. A., on the following dates: Culebra clubhouse, Tuesday evening, January 4; Gorgona clubhouse, Wednesday evening, January 5; Empire clubhouse, Thursday evening, January 6; Cristobal clubhouse, Friday evening, January 7; Panama National Theatre, Saturday evening, January 8; Gatun, Monday evening, January 10.

For the people in the Canal Zone, between Gorgona and Panama, who desire to hear Mr. Bryan's lecture at the National Theater in Panama, arrangements have been made whereby tickets can be secured at the Y. M. C. A. clubhouses, or from the office of the superintendent of clubhouses at Culebra. General admission to the Panama lecture will be $1. Mailed requests for tickets should be accompanied by money orders. A special train will be arranged to run from Panama to Gorgona after the lecture with no extra charge to those holding "Lecture train" tickets, which will be issued in connection with admission tickets for the lecture.

The first game of the interassociation indoor baseball league will be played on Friday night of this week.

Launch Service to Taboga.

The steamer *Sanidad* leaves the dredge landing at Balboa at 9 o'clock Tuesday, Thursday and Saturday mornings. On the return trip it arrives at Balboa about 4.30 p. m. in time to make connections for the 5.30 train at Panama.

OFFICIAL CIRCULARS.

Approved Ratings and Rates of Pay—Gold Roll.

CULEBRA, C. Z., January 1, 1910.

CIRCULAR No. 299:

Effective January 1, 1910, the following designations and rates of pay will be adopted for employes of the Isthmian Canal Commission appointed on the gold roll for service on the Isthmus. No employes will be appointed or promoted on and after that date to positions carrying other designations or rates of pay, except that with the approval of the Chairman entrance salaries may be paid lower than the minimum rates herein prescribed. Employes now in the service under other designations will be immediately redesignated; employes now in the service, who are carried on the rolls at other rates of pay, may be continued at their present rates until they are promoted or reduced or separated from the service, when the special rate in each instance will be abolished and the employe's successor will be appointed at the next lower rate provided for in this circular. This provision applies in particular to longevity rates authorized prior to July 1, 1909.

It is not intended that the simplified designations of this circular shall supersede in correspondence and general usage the longer and more specific designations now current. Inspectors may still be referred to as sanitary inspectors, time inspectors, boiler inspectors, etc. Superintendents will still be known as superintendents of construction, the Superintendent of Public Works, the Superintendent of Ancon Hospital, etc., and clerks may be distinguished as file clerks, stenographers, timekeepers, etc., but only the simpler designations herein prescribed shall be used on pay rolls.

OFFICERS AND EMPLOYES.

[*Salaries not otherwise indicated are at monthly rates.*]

Accountant, $175, 200, 225, 250.

The designation "Accountant" will not be applied to employes whose compensation is less than $175 a month. Accountants now in the service whose compensation is less than $175 a month will be rerated as clerks.

Attorney, Prosecuting, $300.
Assistant, $200.
Bacteriologist, $250.
Bandsman, meeting, $3.12½.
Captain, Second (marine).

The designation "Second Captain" will be abolished. Employes carried under this designation will be rerated as "Masters," or "Mates."

Cashier, $150, 258.33.
Chainman, $60.
Chairman, Assistant to the, $400.
Chaplain, $40, 100.
Chemist, $250.
Claim Officer, $200.
Assistant, $150.
Clerk, $50, 60, 75, 100, 112.50, 125, 137.50, 150, 162.50, 175, 187.50, 200.
Clerk, Chief, $200, 225, 250.
Special, $300.
Assistant, $200.
Special, $250.
Clerk of Circuit Court, $166.67.
Clerk of Supreme Court, $200.
Collector of Revenues, $416.67.
Deputy, $208.33.
Computer, $100, 125.
Copyist.

Copyists will be rerated as clerks.

Coupon Counters.

Coupon counters will be rerated as clerks.

Custodian, $100, 125.
Dietist, $100.
Dispenser, $50.
Disbursing Officer, $655.
Assistant, $333.33.
Dispatcher, Chief, $225.
Assistant, $175.
Draftsman, $100, 112.50, 125, 137.50, 150, 162.50, 175, 200.
Chief, $200, 225, 250.
Druggist, $60, 75, 100, 125, 150.
Embalmer, $100, 125.
Engineer, Assistant, $225, 250, 275, 300.
Special, $325, 400, 433.33, 500.
Engineer, Designing, $250. 300, 350, 400, 450, 500, 600.
Engineer, Electrical, $400.
Engineer, Electrical and Mechanical, $600.
Engineer, Junior, $175, 200.
Engineer, Mechanical, $300.
Engineer, Office, $350, 400.
Engineer, Resident, $400, 450, 500.
Engineer, Testing, $225.
Assistant, $150.
Engineer, Traveling, $250.
Examiner of Accounts, $500.
Assistant, $375.
Eye and Ear Clinic, Chief of, $375.
Fire Chief, $250.
Assistant, $175.
Fire Department: Captain, $150, Lieutenant, $135, Fireman, $100, 125.
Foreman, $75, 83.33, 100, 112.50, 125, 137.50, 150, 165.
Shop, $150, 175, 200, 225.
General, $175, 200, 225.
Shop, General, $250, 275.

The maximum rate of pay for General Foremen on construction work shall be $200, except that General Foremen of Forms may be paid not more than $225.

Health Officer, $300.
Hotel Assistant, $100, 112.50, 125.
Hotel Manager, $225, 250.
Housekeeper, $75.
Hydrographer, $100, 125, 150.
Principal, $200.
Interpreter, $100.
Inspector, $75, 87.50, 100, 112.50, 125, 137.30, 150, 162.50, 175, 200, 225, 250.

The maximum authorized rate of pay for Time Inspectors is $162.50. The maximum authorized rate of pay for Sanitary Inspectors is $200.

Inspector, Chief Sanitary, $375.
Assistant, $225.
Inspector, General, (Sanitary Dept.), $350.
Judge, District, $250.
Justice, Associate, $500.
Justice, Chief, $541.67.
Laboratory Assistant, $90, 100.
Laboratory, Chief of, $375.
Levelman, $100, 125.
Librarian, $125.
Master (Marine) $140, 150, 155, 160, 165, 170, 175, 185, 200, 210, 225.

Applications for the employment or promotion of Masters should specify the class of vessel to which the employe will be assigned, and whether subsistence will be allowed in addition to the money compensation.

The maximum rates of pay for Masters on ladder dredges are $165 with subsistence, and $185 without subsistence; on clapets, $150 with subsistence and $170 without subsistence; on tugs, $165 with subsistence; on dipper dredges, $210; on sea-going suction dredges, $225 with subsistence; on pipe-line suction dredges, $200 with subsistence.

Master Car Builder, $225.
Master Mechanic, $225, 250, 275.
Mate, $100, 120, 125, 130, 135, 145, 150, 155, 175.

Mates will not be designated on the rolls or in the records as first, second and third mates, but on applications for the employment or promotion of mates the grade should be specified in a note, as well as the class of vessel, and whether the rate is with or without subsistence.

The maximum rates of pay for mates on tugs are: For first mate, $155 with subsistence; for second mate, $120 with subsistence; on pipe-line suction dredges; for first mate, $175 with subsistence; for second mate, $135 with subsistence.

Medical Clinic, Chief of, $375, 500.
Messengers.

Messengers will be carried on the silver rolls, except in special cases approved by the Chairman.

Meteorologist, $150.
Musical Director, $166.67.
Nurse, $60, 75.
Special, $80, 90, 100, 125.

Male nurses paid at the rate of $90, $100, or $125 a month will not be allowed subsistence or laundry.

Nurse, Chief, $125, 150.
Assistant, $125.
Observer, $83.33, 100, 125.
Principal, $175.
Oculist, $200.
Paymaster, $208.33.
Photographer, $200.
Assistant, $125.
Physician, $150, 200, 250, 300.
Physiologist, $250.
Policeman, $80, 90, 100, 107.50.
Police, Chief of, $333.33.
Police, First Lieutenant of, $275.
Second Lieutenant of, $175.
Corporal, $122.50, 132.50.
Sergeant, $142.50, 157.50, 160.
Postmaster, $50, 125, 137.50.

Above $137.50, the salaries of Postmasters shall be fixed in accordance with Section 225 of the U. S. Postal Laws and Regulations.

Assistant, $137.50, 150.
Quarantine Officer, $100, 300.
Quarantine Officer, Chief, $583.33.
Quartermaster, Chief, $833.33.
Assistant Chief, $500.
Depot, $416.67.
Assistant Depot, $275.
Constructing, $333.33.
Quartermaster, District, $150, 175, 200, 225.
Assistant, $100, 125, 137.50, 150.
Rodman, $83.33.
Sanitary Officer, Assistant Chief, $625.
Secretary of Commission, $416.67.
Secretary to Chairman, $300.
Secretary to Commissioner, $200.
Secretary, Clubhouse, $175.
Assistant, $125.
Secretary, Assistant to, $200.
Steward, $60, 75, 83.33, 100, 125, 150, 175.
Storekeeper, $60, 75, 83.33, 100, 125, 150, 175, 200, 225.
Superintendent, $175, 225, 250, 275, 300, 325, 333.33, 350, 416.67, 583.33.

The $175 rate is for the Superintendent of the Palo Seco Leper Asylum; the $416.67 for the Superintendent of Colon Hospital, and the $583.33 rate for the Superintendent of Ancon Hospital.

The maximum rate of pay for Superintendents on construction work shall be $350. Superintendents will not be considered for promotion to this maximum rate until they have completed at least one year's satisfactory service in the grade.

Superintendent, Assistant, $200, 225, 250, 275.
Subsistence Officer, $625.
Assistant, $333.33.
Supervisor, $200, 225, 237.50, 250.
Surgical Clinic, Chief of, $375, 500.
Surveying Officer, $200.
Assistant, $150.
Tax Collector, District, $150.
Deputy District, $100.
Teacher, $60, 90, 110.
(High School Principal), $125.
(Supervising Principal), $175.
(Supervising Principal), $200.
Timekeeper.

The Timekeepers now in the service will be retained with that designation, but in connection with all new appointments the designation "Clerk" shall be used.

Tracer. (Tracers will be rerated as Draftsmen.)
Trainmaster, $200, 250, 275.
Translator, $150.
Transitman, $150, 175.
Treasurer, Canal Zone, $250.
Assistant, $187.50
Veterinarian, $150, 175.
Assistant, $100, 125.
Yardmaster, $190, 210.
Assistant, $150.

SKILLED AND UNSKILLED LABOR.

Apprentice, hour, 10, 15, 20, 25 cents.
Baker, $100.
Blacksmith, hour, 32, 38, 44, 56, 65 cents.
Special, hour, 70 cents.

The 70-cent rate is for "leading-men" and heavy-fire blacksmiths only.

Special, $75, 100, 125, 135, 150.
Boilermaker, hour, 32, 44, 56, 65 cents.
Special, hour, 70 cents.

The 70-cent rate is for "leading-men" and heavy-fire flange boilermakers only.

Special, $175.

The special monthly rate of $175 shall be confined to Boilermakers in outside night repair gangs.

Boiler Scaler.

(Boiler Scaler rerate as Boilermaker at, hour, 44 cents.)

Bricklayer, hour, 65, 70 cents.
Boatswain, $75.
Car Inspector and Repairer, hour, 44, 56, 65 cents.
Car Repairer, hour, 32, 38, 44, 56, 65 cents.
Carpenter, (Car, House and Ship), hour, 32, 38, 44, 56 cents.
Special, hour, 65 cents; month, $80, 100, 125.
Caulker (Ship) hour, 56, 65 cents.

The designation "Caulker" will be substituted for that of "Chipper and Caulker."

Cement Tester, $125, 150.
Assistant, $100.
Channeller, $125, 137.50, 150.
Checker, Shop, $100, 125.

The designation "Shop Checker" will supersede that of "Assistant to Foreman."

Coach Cabinetmaker, hour, 65 cents.
Compositor, $60.
Conductor, (Unqualified), $150.
(Qualified), $190.
Conductor, Foreman, $210.
Cook, $50, 60, 75, 83.33, 100, 125, 150.

Coppersmith, hour, 32, 38, 44, 56, 65 cents.

Coxswain, $75.

Craneman (Steam Shovel or Dipper Dredge), $185.

Cupola Tender, hour, 44, 56 cents.

Drill Runner, hour, 38, 44 cents; month, $75, 83.33, 100.

Electrician (Rerate as Machinist, Lineman, or Wireman).

Engineer, Cableway, $150, 175.

Assistant Cableway, $125.

Engineer, Station, $250.

Assistant Station, $225.

Engineer, Steam, $75, 100, 115, 125, 135, 150, 165.

Special, $175, 200.

This rating shall supersede the following ratings now in use but henceforth abolished: Crane Engineers (Locomotive Cranemen), Hoisting Engineer, Lidgerwood Engineer, Pile Driver Engineer, Road Roller Engineer, Stationary Engineer, Track-shifting Engineer, Wrecking Engineer, Compressor Engineer, Dynamo Engineer, Pumpman, and Operator of Clam Shell or Orange Peel Dredge. On pay rolls and other official papers, the designation "Steam Engineer" will be used, and subtitle describing more minutely the duties of the individual employe will not be necessary, but on applications for increase of force or pay the exact nature of the duties of the "Steam Engineer" to be appointed or promoted, should be explained in a note.

The maximum authorized rate of pay for Steam Engineers on hoisting, Lidgerwood, and track-shifting engines and on pile drivers is $125. The maximum authorized rate for Pumpmen is $135. The maximum authorized rate for Steam Engineers on pile drivers, locomotive cranes and on clam shell and orange peel dredges is $150.

Engineer, Locomotive, (Switch), $125.

(Narrow Gage), $150.

(Unqualified), $180.

(Qualified, $210.)

Engineer, Marine, $75, 100, 115, 120, 125, 135, 140, 145, 150, 155, 165, 175, 200.

The maximum rate of pay for marine engineers on ladder dredges are: For chief engineer, $155 with subsistence, and $175 without subsistence; for first assistant engineer, $145 with subsistence and $165 without subsistence; on tugs, for chief engineer, $155 with subsistence; for first assistant engineer, $145 with subsistence; for second assistant engineer, $120 with subsistence; on clapets, for first engineer, $145 with subsistence and $165 without subsistence; for second engineer, $135 with subsistence and $155 without subsistence; on dipper dredges, $155; on sea-going suction dredges, for chief engineer, $200 with subsistence; for first assistant engineer, $140 with subsistence; second assistant engineer, $115 with subsistence; third assistant engineer, $100 with subsistence; on pipeline suction dredges, for chief engineer, $175 with subsistence; first assistant engineer, $135 with subsistence; second engineer, $125 with subsistence.

Application for the employment or promotion of Marine Engineers should specify the class of vessel to which the employe will be assigned, and whether subsistence will be allowed in addition to the money compensation. The engineer's relative grade should also be specified.

Engineer, Steam Shovel, $210.

Firemen, $75, 83.33, 100.

The rate of $100 is for head Firemen at important plants. For Firemen on isolated boilers or in subordinate positions the maximum salary is $83.33.

Helper, hour, 25 cents.

The designation "Helper" will be applied to employes of this grade in all the mechanical trades without distinction. If desired the descriptive title of the employe's trade may be added, *e. g.*, Blacksmith Helper, Machinist Helper, etc.

Hostler, $100, 125, 140.

Ironworker, hour, 44, 56, 65, 70 cents.

The 70-cent rate is for "leading-men" only.

This designation will include Snappers, Bolters-on, Angle Iron Smiths, Rivet Heaters, Riveters and Structural Erectors.

Laundress, $50, 60.

Lineman, hour, 32, 38, 44, 56, 65 cents, month, $125, 137.50, 150.

Machinist, hour, 32, 38, 44, 56, 65 cents.

Special, hour, 70 cents.

The 70 cent rate is for "leading-men" only.

Machinist, $135, 175.

The special monthly rate of $175 shall be confined to Machinists in outside night repair gangs.

Matron. $15, 25.

Molder, hour, 32, 38, 44, 56, 65 cents.

Special, hour, 70 cents.

The 70 cent rate is for "leading-men" only.

Motorman, $100, 125, 150.

The $150 rate is for motor car operators qualified to run on P. R. R. main line.

Operator, (Suction Dredge), $125, 150.

(Dipper Dredge), $210.

(Filtration Plant), $125, 150.

(Hydraulic Excavation Equipment, Electric Cranes, etc.), $125, 135.

(Switchboard), $125, 150, 175.

Assistant, (Switchboard), $125.

(Telephone), $50.

Painter, hour, 32, 38, 44, 56 cents.

Special, hour, 65 cents.

Patternmaker, hour, 65, 75 cents.

Pipefitter, hour, 32, 38, 44, 56, 65 cents, month, $150.

Special, $175.

The special monthly rate of $175 shall be confined to Pipefitters in outside night repair gangs.

Pipeman, $125, 135.

Planing Mill Hand, hour, 32, 38, 44, 56 cents.

Plumber, hour, 32, 38, 44, 56, 65 cents.

Special, hour, 75 cents, month, $150.

Powderman (Rerate under the general designation "Foreman.")

Proof Reader, $125.

Recorder, Station, $125.

Rigger, hour, 32, 44 cents.

Saddler. $100.

Seaman, $35, 40.

Special. $60.

Ship Carpenter, (See Carpenter.)

Ship Joiner, hour, 65 cents.

Shipfitter, hour, 44, 56, 65 cents.

Shipwright, hour, 44, 56, 65 cents.

Splicer, Cable, $125, 137.50.

Tinsmith, hour, 32, 38, 44, 56 cents.

Special, hour, 65 cents.

Trainman, $100.

Typewriter Repairer, $100, 125.

Wagonmaker, $100.

Watchman, $75.

Wheelwright, $100, 125.

Wireman, hour, 32, 38, 44, 56, 65 cents, month, $125.

The $125 rate is for Blasting Wiremen only.

Approved January 1, 1910.

GEO. W. GOETHALS,
Chairman.

Jurisdiction of Traveling Engineers.

CULEBRA, C. Z., December 17, 1909.

CIRCULAR NO. 266-C:

Effective December 20, 1909, the jurisdiction and duties of the traveling engineers, as stated in Circular 266-B, are extended, so far as their present duties will permit, to the locomotives of the Panama railroad.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Accountable Officials.

CULEBRA, C. Z., December 31, 1909.

ALL ACCOUNTABLE OFFICIALS:

A revised list of accountable officials, effective January 1, 1910, who are authorized to assume accountability for Isthmian Canal Commission property is herewith enclosed for your information. Receipts on form Q. M. D. 4, signed by other than accountable officials, except in case of sales, will not be accepted in support of property returns.

By direction of the Chairman.

Respectfully,
C. A. DEVOL, *Chief Quartermaster.*

Officials of the Isthmian Canal Commission who are authorized to assume accountability for public property:

CONSTRUCTION AND ENGINEERING.

Division Engineer, Atlantic Division.

Division Engineer, Central Division.

Division Engineer, Pacific Division.

Subsistence Officer.

Assistant Engineer, Third Division, office of Chief Engineer.

Master Mechanic and Electrical Engineer.

Depot Quartermaster, Mount Hope.

Storekeeper, Q. M. D., Gatun.

Storekeeper, Q. M. D., Gorgona.

Storekeeper, Q. M. D., Empire.

Storekeeper, Q. M. D., Miraflores.

Storekeeper, Q. M. D., Balboa.

District Quartermaster, Porto Bello.

District Quartermaster, Cristobal.

District Quartermaster, Gatun.

District Quartermaster, Tabernilla.

District Quartermaster, Gorgona.

District Quartermaster, Bas Obispo.

District Quartermaster, Las Cascadas.

District Quartermaster, Empire.

District Quartermaster, Culebra.

District Quartermaster, Pedro Miguel.

District Quartermaster, Corozal.

District Quartermaster, Ancon.

CIVIL ADMINISTRATION.

Head of Department of Civil Administration.

ZONE SANITATION.

Chief Sanitary Officer.

The following officials are authorized to execute the certificate on form Q. M. D. 5, certifying that material has been applied to the work, but do not assume accountability for property:

Chairman and Chief Engineer.

Chief Quartermaster.

Disbursing Officer.

Examiner of Accounts.

General Secretary of Clubhouses.

Secretary to the Isthmian Canal Commission.

Atlantic Division Sand and Stone Service.

GATUN, C. Z., December 30, 1909.

In order to utilize to the best advantage the water transportation plant of the Atlantic Division in transporting material to the locks at Gatun, the breakwaters in Colon Harbor, and from the dredges in Colon Harbor; and in order that Porto Bello may be developed with a view to supplying stone, both for the locks at Gatun and for the breakwaters in Colon Harbor, Maj. Edgar Jadwin, in addition to his present duties will, on January 1, 1910, assume charge of procuring and transporting sand and stone from Nombre de Dios and Porto Bello to Gatun, and the transportation of cement from Cristobal to Gatun.

Capt. H. W. Stickle, Assistant Engineer, will report to Maj. Edgar Jadwin for duty under his immediate orders. WM. L. SIBERT, *Division Engineer.*

Mamei Station Agency Closed.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., December 31, 1909.

CIRCULAR NO. 261:

Notice to All Concerned—Effective January 5, the agency at Mamei station will be closed, after which date freight will be handled at this station the same as at any other regular prepay station. J. A. SMITH,
General Superintendent.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., January 4, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Andrews, Miss Gladys
Blackburn, Ray
Bozeman, Mrs. E. M.
Brandt, M.
Brownawell, Mrs. L.
Burrelle, Mrs. Frank A.
Cate, Geo.
Clark, Geo.
Cleary, John W.
Clejhom, Joseph
Cooper, Gilbert K.
Cuff, Mrs. Wm.
Davis, W. C.
Diamond, Robert
Dickinson, Miss Mary
Dowell, P. H.
Donnelly, J. William
Drayton, Allar
Duffy, Michial
Edwards, Miss Rosetta
Erdman, J. D.
Ferri, Juan G.
Fetters, Will
Flint, Frank B.
Hartten, Frank
Hill, Julia M.
Hobday, Robert T.
James, Henry
Johnson, Henry Benton
Karner, W. J.
Labat, Mrs. Emma
La Barrie, Victor A.
Lee, Mrs. E. E.
Leo, J. J.
Lewis, Alfred
McCloskey, Raymond
Moeller, L. A.
Martin, Mrs. W. F.
Marshall, Miss Olive
Otty, G.
Phillip, Mrs. Hannah
Plossel, E. M.
Roche, Gertrude V.
Salmons, Henry R.
Schneider, G. H.
Shaw, Mrs. James
Shropshire, J. B.
Shields, W. J.
Smith, John W.
Stanner, J. F.
Stevenson, J. H.
Snyder, Mrs. H.
Talbort, Richard
Thompson, Anderson
Thompson, Newton F.
Trevor, Thomas
Tupper.
Vallely, Alfred
Whitner, Wm. M.
Woodman, Charlie
Zarl, Clarence

Vessels that arrived at and departed from Balboa during the week ending January 1, were as follows:

Arrivals—December 26, *Fitzclarence*, from Puget Sound; December 27, *Chile*, from south ports; December 30, *Barracouta*, from San Francisco; December 31, *Manavi*, from intermediate ports.

Departures—December 26, *Mexico*, for south ports; December 30, *Arica*, for Guayaquil.

LOST—Gold pin with three pearls in stick pin and bangle attached, marked "1894" on one side, and monogram "E. I. H." on the other, on Panama railroad northbound train, or when getting off train at Empire, about 11.30 a. m., on December 22. Finder please return to house B, No. 113, at Tabernilla, C. Z.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning December 30:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	27
Chops	per lb	29
Cutlets	per lb	29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	*20
Beef—Suet	per lb	4
Soup	per lb	6
Stew	per lb	10
Corned	per lb.	12, 14, 16
Chuck roast	per lb	14
Pot roast	per lb	16
Rib-roast, second cut (not under 3½ pounds)	per lb	19
Rib-roast, first cut (not under 3 pounds)	per lb	21
Sirloin roast	per lb	22
Rump roast	per lb	22
Porterhouse roast	per lb	22
Steak, Chuck	per lb	15
Round	per lb	16
Rib	per lb	21
Sirloin	per lb	22
Porterhouse	per lb	22
Rump	per lb	22
Tenderloin	per lb	*24

MISCELLANEOUS.

Livers—Beef	per lb	*8
Calf	each	65
Half	each	35
Sausage—Pork	per lb	*14
Bologna	per lb	*14
Frankfurter	per lb	*14
Leberwurst	per lb	*14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	*25
Oysters, in 1-quart kegs	keg	55
Oysters, in ½-gallon kegs	keg	90
Eggs, fresh	dozen	40

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each	70, 82, 93, 1.04, 1.15
Ducks, fatted	each	1.30
medium weight	each	90
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese	each	2.70

CURED AND PICKLED MEATS.

Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Sugar cured	per lb	20
Sugar-cured, sliced	per lb	§25
Half, for boiling	per lb	§21
Boiled	per lb	28
Hocks	per lb	‡8
Bacon—Breakfast, whole piece	per lb	25
Breakfast, sliced	per lb	27
Beef, salt, family	per lb	10
Pork, salt, family	per lb	15
Ox tongues	each	1.00
Pigs' feet	per lb	8
tongues	per lb	16

DAIRY PRODUCTS.

Butter—Prints, prime quality	per lb	*45
Cheese—Roquefort	per lb	45
Cheese—Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	28
Edam	each	1.05
Camembert	per lb	28
Neufchatel	each	6
Gouda	per lb	34
Parmesan	bottle	20
French cheese in tins—Camembert, Brie, Neufchatel	1-lb tin	20
Milk, Briarcliff	bottle	**25
Butter	bottle	**15

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	5
Lettuce	per hd	8, 11, 14
Potatoes, white	per lb	*3
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	3
Squash	per lb	†4
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	4
Cabbage	per lb	3
Lemons	dozen	24
Cranberries	per lb	10
Apples	per lb	5
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4
Pineapples	each	18

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ended midnight Saturday, January 1, 1910.

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft.	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Dec. 26	168.9	121.0	78.2	30.3	12.5	10.8
Monday, Dec. 27	.....	117.0	78.0	38.7	19.2	17.2
Tuesday, Dec. 28	.....	101.4	57.5	36.0	19.6	17.8
Wed'esday, Dec. 29	.....	100.1	57.8	27.6	19.0	17.3
Thursday, Dec. 30	155.3	112.0	69.4	31.8	16.9	15.3
Friday, Dec. 31	.....	99.6	59.1	32.1	17.7	16.1
Saturday, Jan. 1	.....	102.7	56.7	23.7	17.2	15.7

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending January 12, 1910 (75th meridian time):

DATE.	High.	Low.	High.	Low.
	A. M.	A. M.	P. M.	P. M.
January 6				
January 7	....	5.54	12.03	6.11
January 8	12.05	6.48	1.02	7.06
January 9	1.09	7.38	1.53	7.56
January 10	1.58	8.25	2.32	8.42
January 11	2.44	9.08	3.18	9.27
	3.27	9.50	3.58	10.08
January 12	4.09	10.32	4.38	10.52

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal, and Colon, during the week ending January 1, 1910, with supplies for the Isthmian Canal Commission:

Colon, December 27, from New York, with 200 barrels step-bearing oil, 10 drums transformer oil, one 800-pound steam hammer, 9 dredging sleeves, 1 steel planer, 1 hand power traveling crane, 1 centrifugal pump and engine, and 1 gas and whistling buoy (Porto Bello) for Atlantic Division; 36 tons steel shells for forms, 1 towing machine and 42 tons sand for Cocoli filtration plant for Pacific Division; 210 kegs track bolts, 351 tons W. I. pipe, 380,000 feet triple tape fuse, 115,000 blasting caps, 6 batteries, 150 pounds insulating tape, 8 tons pipe-fittings, 10,000 gallons engine oil, 9,990 gallons valve oil, 2½ tons solder, 4 tons babbitt metal, 600 track wrenches, and 50 No. 7 railroad frogs for stock; and a miscellaneous cargo aggregating 8,158 packages, weighing 974 tons.

Prinz August Wilhelm, December 27, from New York, with 6 tons pipe-fittings for stock; 2 dredge dippers for Atlantic Division; six 60-inch valves for locks.

Atenas, December 30, from New Orleans, with 374 switch ties, 667 cross-ties, 2 tons turnbuckles, 5,000 gallons dynamo oil, and 10,000 gallons kerosene oil for stock; 1 concrete mixer and 62,000 feet lumber for Pacific Division; 7,825 feet white oak lumber for car repairs; 14 tons castings for steam shovel repairs.

Hero, December 31, from Baltimore, with 15,560 cases dynamite, 2,000 yards canvas, 291 crates hammer handles, etc., 217 tons coke, 12½ tons drift bolts, 25 tons boat spikes and 1,500 kegs track spikes for stock; 1 punching and shearing machine for Atlantic Division; 1,100 car wheels for Gorgona shops; 8 cylindrical valves for locks.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Ancon	P. R. R.	Tuesday	Dec. 28
Panama	P. R. R.	Tuesday	Jan. 4
Allianca	P. R. R.	Monday	Jan. 10
Colon	P. R. R.	Monday	Jan. 17
Advance	P. R. R.	Saturday	Jan. 22
Panama	P. R. R.	Friday	Jan. 28
Allianca	P. R. R.	Thursday	Feb. 3
Colon	P. R. R.	Thursday	Feb. 10
Advance	P. R. R.	Wednesday	Feb. 16
Panama	P. R. R.	Wednesday	Feb. 23
Allianca	P. R. R.	Tuesday	Mar. 1
Colon	P. R. R.	Monday	Mar. 7
Advance	P. R. R.	Saturday	Mar. 12
Panama	P. R. R.	Friday	Mar. 18
Allianca	P. R. R.	Thursday	Mar. 24
Colon	P. R. R.	Thursday	Mar. 31

CRISTOBAL TO NEW YORK.

Advance	P. R. R.	Saturday	Jan. 8
Panama	P. R. R.	Saturday	Jan. 15
Allianca	P. R. R.	Friday	Jan. 21
Colon	P. R. R.	Friday	Jan. 28
Advance	P. R. R.	Thursday	Feb. 3
Panama	P. R. R.	Wednesday	Feb. 9
Allianca	P. R. R.	Tuesday	Feb. 15
Colon	P. R. R.	Tuesday	Feb. 22
Advance	P. R. R.	Monday	Feb. 28
Panama	P. R. R.	Monday	Mar. 7
Allianca	P. R. R.	Sunday	Mar. 13
Colon	P. R. R.	Saturday	Mar. 19
Advance	P. R. R.	Friday	Mar. 25
Panama	P. R. R.	Thursday	Mar. 31
Allianca	P. R. R.	Wednesday	Apr. 6
Colon	P. R. R.	Tuesday	Apr. 12

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyon waiting room on pier 11.

NEW YORK TO COLON.

Prinz Joachim	H.-A.	Saturday	Jan. 1
Clyde	R.-M.	Saturday	Jan. 8
Prinz Aug. Wilhelm	H.-A.	Saturday	Jan. 15
Thames	R.-M.	Saturday	Jan. 22
Prinz Joachim	H.-A.	Saturday	Jan. 29
Atrato	R.-M.	Saturday	Feb. 5
Prinz Aug. Wilhelm	H.-A.	Saturday	Feb. 12
Tagus	R.-M.	Saturday	Feb. 19
Prinz Joachim	H.-A.	Saturday	Feb. 26
Oruba	R.-M.	Saturday	Mar. 5

COLON TO NEW YORK.

Thames	R.-M.	Wednesday	Jan. 12
Prinz Joachim	H.-A.	Tuesday	Jan. 18
Atrato	R.-M.	Wednesday	Jan. 26
Prinz Aug. Wilhelm	H.-A.	Tuesday	Feb. 1
Tagus	R.-M.	Wednesday	Feb. 9
Prinz Joachim	H.-A.	Tuesday	Feb. 15
Oruba	R.-M.	Wednesday	Feb. 23
Prinz Aug. Wilhelm	H.-A.	Tuesday	Mar. 1

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

NEW ORLEANS TO COLON.

Turrialba	U.F.C.	Saturday	Jan. 1
Abangarez	U.F.C.	Saturday	Jan. 8
Atenas	U.F.C.	Saturday	Jan. 15
Turrialba	U.F.C.	Saturday	Jan. 22
Abangarez	U.F.C.	Saturday	Jan. 29

COLON TO NEW ORLEANS.

Turrialba	U F.C.	Tuesday	Jan. 11
Abangarez	U.F.C.	Tuesday	Jan. 18
Atenas	U.F.C.	Tuesday	Jan. 25
Turrialba	U.F.C.	Tuesday	Feb. 1
Abangarez	U.F.C.	Tuesday	Feb. 8

COLON TO BARBADOS, CALLING AT TRINIDAD.

Thames	R.-M.	Tuesday	Jan. 18

A ship of the United Fruit Company's line sails from the dock at Colon, at 3 p. m., Tuesday of each week.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Barbadian* for New Orleans, via Kingston Ja., on or about January 6.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, JANUARY 12, 1910. No. 20.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications

THE CANAL RECORD

Ancon, Canal Zone,

Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Canal Work in December.

The grand total of Canal excavation in December was 2,811,681 cubic yards, which is 362,366 cubic yards more than the total for November and 1,068,656 cubic yards less than the highest record, that of March, 1909. Of the 2,811,681 cubic yards, 2,618,662 cubic yards were charged to "work excavation" and 193,019 cubic yards to "plant." The dry excavation amounted to 1,455,611 cubic yards and was principally by steam shovels. The dredges removed 1,356,070 cubic yards in addition to the amount pumped into Gatun Dam by the suction dredges on that work. The progress on the locks at Gatun and Pedro Miguel is referred to elsewhere in this issue.

In the Atlantic Division the total excavation was 725,200 cubic yards, 161,850 cubic yards more than in November. Of this total, 96,590 cubic yards were dry excavation and the remainder was removed by the dredges in the Atlantic entrance, and at work in deepening the French canal through which material for the concrete is towed to Gatun Locks.

The total excavation in the Central Division was 1,258,533 cubic yards. The floods in the Chagres River interfered greatly with the excavation in the Gatun Lake region, and caused much inconvenience in the north end of Culebra Cut. Of the total for this division, 106,511 cubic yards were excavated in the Gatun Lake region, and 1,152,022 cubic yards in Culebra Cut. The excavation in Culebra Cut in December, 1908, was 1,210,046 cubic yards, and in November, 1909, it was 1,070,792 cubic yards.

In the Pacific Division the excavation amounted to 827,948 cubic yards, of which 727,460 cubic yards were taken out by the dredges at the Pacific entrance. The total for November was 721,554 cubic yards.

A detailed statement of the excavation, and of the lock and dam work follows:

ATLANTIC DIVISION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, Dam and Spillway	96,590	....	96,590
Mindi	....	....	....
Total	96,590	....	96,590
Wet excavation—			
Atlantic entrance	489,121	139,489	628,610
Locks, Dam and Spillway	....	....	....
Total	489,121	139,489	628,610
Total wet and dry excavation	585,711	139,489	725,200
CENTRAL DIVISION.			
All dry excavation—			
Culebra Cut	1,152,022	....	1,152,022
Chagres section	105,044	1,467	106,511
Obispo Diversion	....	....	....
Total	1,257,066	1,467	1,258,533
PACIFIC DIVISION.			
Dry excavation—			
Locks, Dams and Spillways	48,425	52,063	100,488
Diversions	....	....	....
Total	48,425	52,063	100,488
Wet excavation—			
Pacific entrance	727,460	....	727,460
Miraflores Locks	....	....	....
Diversions	....	....	....
Total	727,460	....	727,460
Total wet and dry excavation	775,885	52,063	827,948
TOTAL CANAL EXCAVATION.			
Dry excavation	1,402,081	53,530	1,455,611
Wet excavation	1,216,581	139,489	1,356,070
Total	2,618,662	193,019	2,811,681

Mean rainfall along Canal (eleven stations) 15.85 inches.

By "Work" Excavation is meant excavation actually made for one of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc.; that is, it represents material taken from the area to be occupied by the Canal, and constitutes excavation useful for the completed Canal.

By "Plant" Excavation is meant excavation outside of any of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc. It includes material necessary to be excavated for construction purposes only and is chargeable against the particular plant item for which it is performed, such as Prism, Diversions, Locks, etc.

DAM AND LOCK CONSTRUCTION.

MATERIAL.	Atlantic.	Pacific.	Total.
	Cu Yds.	*Cu. Yds.*	*Cu. Yds.*
Fill placed in dams	307,831	12,679	320,510
Concrete laid in dams and spillway	437	129	566
Concrete laid in locks.	42,832	13,100	55,932

Saving in the Use of Oil.

A saving of over $500 was made in the use of valve, engine, kerosene, and signal oils on locomotives during the month of December, due to the instruction given by the representative of the oil contractor and the work of the Commission's two traveling engineers. At Las Cascadas 50 per cent less oil was issued than in November, the saving amounting to over $200. At Pedro Miguel and Balboa the saving over the previous month in the amount of oil and waste issued was over $300. A saving of one load was made in the amount of coal issued at Las Cascadas and Pedro Miguel. These economies were absolute, and in addition to those effected by the instruction given the crews of trains in handling the engines and air equipment.

Inner Harbor at Balboa.

A commodious inner harbor, or anchorage basin, will probably constitute one of the permanent features of the Pacific end of the Canal. Tentative plans have been prepared, and the Resident Engineer at Balboa has received authority to begin preliminary work by removing the partly submerged French machinery that is now scattered over a large part of the area of the proposed basin.

Under the plans submitted, the eastern edge of the harbor will extend from the new sand dock, along the old railroad embankment, built while work on the abandoned Sosa-Corozal dam project was in progress, to the site of the dam, and thence north for a distance of about 750 feet. Its limits will then be extended in a straight line, in a westerly direction, crossing the present bed of the Rio Grande, until the Canal is reached, the western edge of the latter channel constituting the western boundary of the basin.

The total area will be approximately 176 acres, and the greater part of it, outside of the Canal channel, will have to be dredged, the estimated amount of material required to be removed aggregating 10,000,000 cubic yards. At the present time, a long spit of land, showing above water, extends down to about opposite the shipways at Balboa, separating the Canal channel from the river entrance, and this will involve the heaviest part of the dredging within the basin. The harbor will have a uniform depth of about 40 feet at mean low tide.

It is not intended that the work of preparation shall interfere in any way with the regular Canal dredging operations, nor will the dredging work be entered upon until the Canal channel is well on toward completion and there is less work to be done. Meanwhile, there is a large amount of French machinery, which will have to be removed, and this work can be done at odd times.

When the basin is completed, plans will probably be considered for a permanent system of piers, or docks, extending from the sand dock along the east side of the harbor, and if the shipping business at that time shall appear to justify such construction, along the north end of the harbor, as well. The Rio Grande channel will be eliminated by the formation of Lake Miraflores, and much of the ground in the immediate vicinity of the harbor, now low and partly

NOTES OF PROGRESS.

(Continued.)

covered by water at high tide, will be reclaimed. It has been proposed that the piers be constructed to extend directly out from shore, at distances of about 500 feet apart, which will enable ships of any tonnage to berth alongside, two to each dock. The fulfillment of this part of the project will provide for the removal of the present Panama railroad docks to the new site.

The harbor as thus planned, will afford an absolutely safe anchorage. It is be practically landlocked, with no sea disturbances, barring the rise and fall of the tides, and merchant shipping will be secure from all attack, as the harbor will be directly under the lee of the proposed fortifications on Sosa Hill.

Building Gatun Locks.

On January 6 there was placed in the locks at Gatun 2,010 cubic yards of concrete, the largest amount laid in a single day since the lock building was begun. During the week ending January 8, the following amounts were laid:

	Cubic Yards.
January 3	1,744
January 4	1,783
January 5	1,896
January 6	2,010
January 7	1,724
January 8	1,908
Total	11,065

The record of concrete laid in Gatun Locks by months is as follows:

	Amount—Cu. yds.	Average per day—Cu. yds.
August (seven days)	1,298	185
September (26 days)	11,934	459
October (31 days)	29,378	948
November (24 days)	30,098	1,254
December (26 days)	43,478	1,672
January 1 to 8 (6 days)	11,065	1,844
Total	127,251	1,060

Concrete laying was resumed in the spillway of Gatun Dam on January 5, and from that date to the 8th, inclusive, 472 cubic yards were laid.

Lock Construction at Pedro Miguel.

The total amount of concrete added to the lock construction at Pedro Miguel during the week ending Saturday, January 8, was 4,322¾ cubic yards, and a new high record for one week's output was established at that point. The best previous record there for six days' work was 3,050½ cubic yards laid during the week ending December 4, 1909. On Monday, January 3, a total of 857 cubic yards was laid, thereby establishing a new high record for one day at the Pedro Miguel Locks, the largest single day's output previous to this time having been 784½ cubic yards on December 31. The increased showing is principally due to the new stationary mixer, which is now in operation, although not working to its maximum capacity.

The record for each of the six 8-hour working days of the week ending January 8, follows:

	Cubic Yards.
January 3	857
January 4	730½
January 5	663¼
January 6	735½
January 7	802
January 8	534½
Total	4,322¾

The amount of concrete laid in the Pedro Miguel Locks from the beginning of work on September 1, 1909, to January 8, 1910, inclusive, is shown below:

	Cubic Yards.
September	2,369½
October	8,396¼
November	10,080½
December	13,148½
January 1 to 8 (6 working days)	4,322¾
Total	38,317½

Additional Steel Dump Cars.

One hundred all steel, side door dump cars of a rated capacity of 12 cubic yards will be added to the equipment on the relocation of the Panama railroad. The Washington office has been directed to advertise for bids. The cars will be of about the same construction as the 300 added to the service during the year 1909, and will embody all the improvements suggested by the hard usage that dump cars have been subjected to on the Canal work. The first lot of the 12-yard dump cars were put in service in 1905, when 100 were added to the equipment. The following year 300 were in the service; in 1908, there were 800, and in 1909 there were added 300 more. In addition to these 12-yard cars there are 300 steel dump cars of a rated capacity of 25 cubic yards in service, and 250 more of this size are being advertised for in the States. When all the cars on order are added to those in the service there will be 1,200 steel, side door dump, 12-yard cars, and 550 steel, side door dump, 25-yard cars available, in addition to the 1,765 wooden flat cars, and 500 steel flat cars in use on the work.

PERSONAL.

Judge Wesley M. Owen of the Circuit Court of the Second Judicial Circuit at Empire, accompanied by his family, returned from his leave in the States, on the *Panama*, which arrived at Cristobal on January 10.

Lieutenant Frederick Mears, Chief Engineer of the Panama railroad, accompanied by his family, arrived on the *Panama*, on January 10, from a vacation of six weeks in the States.

Dr. J. P. Perry, Chief Quarantine Officer, left on the *Colon*, on Sunday, January 2, on his annual leave of absence.

Benefit Dance.

A dance will be held at the East Balboa mess hall for the benefit of the Catholic Church at Balboa on Saturday night, January 15. A special train will be run from Pedro Miguel. The orchestra of the Republican Band, Panama, will furnish music, and refreshments will be served.

Odd Fellows.

Ancon Club, I. O. O. F. meets each Thursday evening in the Ancon lodge hall. All members of the order who anticipate signing the petition for charter are especially requested to be present at the meeting of January 20, at 8 o'clock p. m., with the required evidence.

Steam Shovel and Dredgemen.

Local No. 19, I. B. of Steam Shovel and Dredgemen will hold their annual election for local officers, Sunday, January 16, at 2.30 p. m., in the I. C. C. lodge hall, Empire. All members are requested to attend.

S. I. LYONS,
Secretary and Treasurer.

Empire, C. Z., January 7, 1910.

Sailing of the Ancon.

The steamship *Ancon*, now in port, will sail from Pier No. 11, Cristobal, at 3 p. m., on Sunday, January 16, 1910.

CONTRACT WORK.

Bids to be Asked on About 200,000 Yards—Progress of Contract Excavation—Clearing in the Prism.

Preparations are being made by the Central Division to let to contractors two pieces of excavation in the Canal prism in the Gatun Lake region, one of about 166,000 cubic yards near Bohio, and the other of about 36,000 cubic yards near Tabernilla. The advertisement will appear in a subsequent issue of THE CANAL RECORD, and in local newspapers.

The tract near Bohio is on the west side of the Chagres River, and it was first intended to take it out by steam shovel, which would have involved the construction of a bridge across the river from the main line of the Panama railroad. The French did a large amount of excavation in this locality, but it has not been utilized by the Americans because the broad channel of the present Canal can be made at less cost by using another route. A diversion channel dug by the French is near the prism of the present Canal, however, and this, with two lagoons of several acres in extent, affords a convenient dumping place. A careful survey of the ridge that is to be cut down to elevation 40 feet above sea level, and a number of borings, show that about 120,000 cubic yards of the material are earth, 42,000 cubic yards are soft rock, and 4,000 cubic yards are hard rock.

The contractor, to whom was let the work of excavating a number of small patches of earth and rock in the Canal prism between Barbacoas Bridge and Bohio, began work in December, and at the close of that month had taken out 1,166 cubic yards near Barbacoas, 256 at Buena Vista, and 5,287 cubic yards at a point a mile north of Buena Vista, in all, 6,709 cubic yards of earth. This was done in the rainy season, and about 100 men were employed. As soon as the dry weather sets in the contractor expects to put a force of 400 men at work. The method employed on the earth sections is to sublet the work to native and negro contractors. The rock excavation south of Buena Vista is being done by the contractor himself. A store has been opened at Bohio at which the laborers can buy necessaries of food and clothing. The total to be excavated is 160,947 cubic yards.

Clearing in the prism between Tabernilla and Boca del Trinidad was affected by the first and third floods in December, which carried away much of the cut trees and brush, and stacked up much more of it in piles where it can be readily burned. Sections A, B, C, and D, 396 acres in all, on which the trees and brush had been cut were practically cleared in this way. These are the sections between Tabernilla and Bohio, and little remains to be done on them, except to burn the wood. On section E, 110 acres, all the trees are felled, and on section F, 121 acres, half the trees are felled, and work is in progress on the remainder. Sections G, 121 acres, and H, 94 acres, are as yet untouched. The average force on this work is 140 men, and the contractor expects that all the felling will be done by the end of January. If the weather continues dry the clearing will be completed in March. Most of this work is also being done by the subcontract system.

SCHOOL GARDENS.

Experiment in the Teaching of Gardening Will Be Carried On for a Month.

An experiment in the teaching of gardening in the schools for colored children will be made by the Division of Schools of the Canal Zone. A horticulturist has been engaged for one month and he is to start the work at the various schools and give a negro teacher sufficient instruction to enable him to carry on the elementary gardening work that will be attempted. For the present, efforts will be bent toward raising those vegetables that have been successfully raised in the Canal Zone, little time, if any, being spent in experimenting with exotic plants.

The work was to open at Balboa on January 3, but on account of rain the schedule proposed was not carried out. The plan contemplates a garden at Balboa, Culebra, Empire, Las Cascadas, Matachin, and Gatun. Corn, okra, cow-peas, peanuts, cucumbers, and squash seed are being planted this week, and by next week it is believed that the seeds will have sprouted to the extent that cultivation may be begun.

Seed beds with tomato, pepper, lettuce, tobacco, and eggplant seeds will be started, while beans and radishes will be put out. Bananas and papayas will be set out near the schoolbuildings and around the gardens, and they will serve the double purpose of furnishing fruit and of breaking the force of the winds that blow during the dry season. Some decorative plants will be set out along the fences, merely to stimulate the interest of the children. It is believed that enough money can be made from the bananas and papayas to pay the salary of a professional horticulturist, if it be deemed wise to employ one.

In order to avoid nonfertilization of the flowers it is necessary that certain plants be segregated as to kind. For this reason it is impracticable to assign to each pupil a separate plot of ground on which to plant all varieties of vegetables, but each pupil will have his own plants to look after. Two 1-hour periods each week will be devoted to this work during the first month, and three 1-hour periods a week thereafter. More time will be used if the proper care of the gardens makes it necessary.

The question of establishing a school for delinquent children, which was considered along with that of teaching gardening in the schools, has not been determined, but a recommendation has been made that the Commission gardens at Empire be turned over to the Division of Schools for the purpose of establishing an industrial farm at which children convicted in the courts may be trained.

In his report on the subject the Superintendent of Schools makes the following suggestions, which, however, are still under consideration:

"To maintain interest it is my purpose to give to each child the product of his labors. I do not believe that the work for the present year can or need be graded as it will all, of necessity, be of a very elementary nature. Some rudimentary science can be taught, but it will be of a very doubtful value as these people are imitative rather than adaptive. To show them how, rather than why, will be our policy. If an expert horticulturist is employed it would be my notion to keep him experimenting at Empire, with the delinquent boys, if practicable and to advance to such new ground as he might find it safe to occupy with the schools. I think with such an arrangement it would be quite within the range of practicability to extend the garden at Empire to include ten, possibly twenty, acres within a very short time, while gardens from one-half to one acre in size could be established at each school along the line. * * * Special effort to get the natives in to see the work of the schools could be made. * * * Text books—readers, arithmetics, spellers, etc.—should be adapted. As things now are our books lend themselves very ill to the needs of these people. I think it quite feasible before another year to work out an entire system of books to be printed in the Zone and under this division, which would be well adapted to the ends to be sought in the education of the people here."

Suicide.

Charles L. Thorne, an American, who was employed as supervisor of the rock quarry at Porto Bello, shot himself fatally at his quarters in that settlement, about 12.30 p. m., on Friday, January 7. He was born at Peekskill, N. Y., in 1881, had been on the Isthmus four years, and left a wife and a little daughter, who were with him at Porto Bello. The body was removed to Colon to be embalmed for shipment to the States.

CANAL MEDALS.

List of Panama Railroad Company Employes, Who Earned Medals, or Bars, in 1909.

There is published below a list of employes of the Panama Railroad Company, who have earned a Canal Medal, or a Medal bar, during the calendar year ending December 31, 1909. It is requested that all persons interested will carefully check this list and report any errors which it may contain, to the Assistant to the Chairman, for correction.

A similar list of employes of the Isthmian Canal Commission, who have earned a medal, or bar, during the past year, will be published in a subsequent issue of THE CANAL RECORD.

NAMES OF PANAMA RAILROAD EMPLOYES ENTITLED TO CANAL MEDALS, BY REASON OF TWO YEARS OF CONTINUOUS SERVICE ON THE ISTHMUS, SUBSEQUENT TO DECEMBER 31, 1906.

Name.	*Medal service begins.*
1907.	
Lamb, William	Jan. 9
Crummett, F. C	Jan. 20
Rutherford, F. A.	Jan. 29
Cope, Thomas	Feb. 3
Wall, Percy J	Feb. 4
Williamson, J. D	Feb. 4
Gansereit, Carl	Feb. 6
Peterson, V. S	Feb. 18
Arbuckle, E. R	Feb. 18
Williams, Florence E	Mar. 1
Essex, W. S	Mar. 6
Fahey, P. J	Mar. 12
Fogle, Ralph	Mar. 14
Misch, John	Mar. 20
Straw, G. R	Mar. 22
Richwaldt, C. A	Mar. 28
Carty, Maud	Apr. 1
Knauff, E. B.	Apr. 24
Hoggatt, Nat	May 5
Hiser, J. E	May 6
Kidder, W. H	May 13
Masterson, W. E	May 17
Anderson, L. H	May 18
Gansereit, R. G	May 20
Malmo, R. H	May 27
Williams, Henry	May 30
Rounds, R. F	June 3
Carty, C. G	June 6
Talley, E. E	June 7
Grunwald, F	June 8
Mead, J. P	June 8
Storm, J. W	June 13
Noltee, G. M	June 13
Whitaker, R. W	June 13
Gwartney, D. C	June 13
Zuberbier, H	June 21
Horton, A	June 24
Sartor, R. H	June 29
Walsh, J. A	June 30
Orenstein, H	July 1
Neece, F. O	July 6
Coit, Charles	July 9
McEwen, J. L	July 15
Whitman, W. E	July 22
Storey, H. E	July 22
Millett, P. J	Aug. 1
Plante, C. A	Aug. 2
Bradley, P. L	Aug. 7
Stumph, A. W	Aug. 7
Mock, R. L	Aug. 16
Strobl, M	Aug. 17
Masterson, R. W	Aug. 18
Kramer, G. A	Aug. 18
Whiteman, Frank	Aug. 18
Gardler, F	Aug. 23
Beyer, P. W	Aug. 24
Walker, Bertha A	Sept. 1
McDermott, Eugenia	Sept. 1
Smith, J. A	Sept. 2
Reisinger, F. C	Sept. 2
Old, G. H	Sept. 7
Wichman, F. S	Sept. 13
Beverley, Robert	Sept. 19
Kramer, K. K	Sept. 24
Petersen, O. W	Sept. 30
Weaver, J. M	Sept. 30
Mohr, G. E	Oct. 1
Kromer, W. H	Oct. 1
Clifton, D. W	Oct. 7
McClennan, K	Oct. 9
Slifer, H. J	Oct. 10
Becker, N. A	Oct. 28
Mills, O. F	Nov. 6
Clarke, J. E	Nov. 11
Bedell, A. G	Nov. 15
Carlson, R. S	Nov. 17
Hirsch, F. S	Nov. 18
Haag, A	Nov. 18
Luft, Harry	Nov. 18
Burrows, C. A	Nov 18
Connor, J. H	Nov. 19
Snyder, Jacob	Nov. 24
Jensen, J. C	Nov. 24
McSparran, W. J	Dec 4
McArthur, D	Dec. 4
Billig, J. M	Dec. 9
Fitch, F. W	Dec. 9
Stratton, F. H	Dec. 16
Daspit, S. I	Dec. 16
Murphy, P. T	Dec. 21
Vifquain, J. B	Dec. 24
Williams, J. H	Dec. 24
Page, Lela M	Dec. 27
Lowery, L. F	Dec. 31

LIST OF PANAMA RAILROAD EMPLOYES ENTITLED TO SERVICE BARS, BY REASON OF FOUR YEARS OF CONTINUOUS SERVICE, SUBSEQUENT TO DECEMBER 31, 1904.

NAME.	Service commenced.	Bar due.
	1905.	*1909.*
Hubbard, E. L.	Feb. 7	Feb. 7
Armiger, George	Feb. 23	Feb. 23
Duckworth, J. T	Feb. 23	Feb. 23
Debardeleben, M. V	Feb. 23	Feb. 23
Simpkins, A. B	Mar. 12	Mar. 12
Notte, J. G	Mar. 22	Mar. 22
Constantine, John	Mar. 29	Mar. 29
McCormick, P. C	Apr. 7	Apr. 7
Smith, F. T	Apr. 7	Apr. 7
Manassa, P. H	Apr. 8	Apr. 8
Harvey, R. J	Apr. 17	Apr. 17
Price, Harvey	Apr. 24	Apr. 24
West, J. Y	May 2	May 2
Thompson, F. Y	May 8	May 8
Lindersmith, W. W	May 10	May 10
Woods, J. T	May 11	May 11
Englaoder, M	May 15	May 15
Larcom, Burdette L	May 15	May 15
Gannon, H. F	May 15	May 15
Hagan, John	May 15	May 15
Mitchell, E. C	May 16	May 16
Mendes, A. S	May 16	May 16
Betebeuner, H	May 23	May 23
Beckel, W. O	May 29	May 29
Patterson, A. C	June 5	June 5
Malsbury, O. E	June 13	June 13
Dawson, A. J	July 5	July 5
Perry, W. S	July 6	July 6
Cleary, John W	July 12	July 12
Potts, I. R	July 12	July 12
Bushnell, H. H	July 24	July 24
Martin, W. A	Aug. 14	Aug. 14
Hunter, Charles D.	Aug. 15	Aug. 15
Whitney, G. A	Aug. 15	Aug. 15
Karnopp, E. B	Aug. 16	Aug. 16
Williams, H. J	Aug. 18	Aug. 18
Toll, L	Sept. 1	Sept. 1
Fernandez, Frank	Sept. 11	Sept. 11
Cappers, W. F	Sept. 12	Sept. 12
Donovan, S	Sept. 16	Sept. 16
Vifquain, B. M	Sept. 18	Sept. 18
Dedge, Graham G	Sept. 19	Sept. 19
Patterson, W. O	Sept. 23	Sept. 23
Colip, E. H	Sept. 30	Sept. 30
Hamilton, C. J	Oct. 3	Oct. 3
Tysinger, J. D	Oct. 20	Oct. 20
McCann, W. E	Oct. 31	Oct. 31
Smith, Thomas H	Nov. 8	Nov. 8
Connors, Neil	Nov. 13	Nov. 13
Dovell, J. P	Nov. 13	Nov. 13
Herman, A. O	Nov. 13	Nov. 13
Wilson, H. S	Nov. 14	Nov. 14
Culbertson, X. W	Nov. 26	Nov. 26
Owen, H. C	Nov. 26	Nov. 26
Bowman, Thomas	Dec. 1	Dec. 1
Stewart, David	Dec. 9	Dec. 9
Notte, J. G	Dec. 16	Dec. 16
Potts, [illegible] C	Dec. 16	Dec. 16
Wentworth, E. A	Dec. 16	Dec. 16

RECORD OF EXCAVATION SINCE AMERICAN OCCUPATION.

MONTHLY TOTALS BY CUBIC YARDS, PLACE MEASUREMENT.

ATLANTIC DIVISION.

COLON—STEAM SHOVELS.

Months.	1907*	1908*	1909	
	From Canal Prism	From Canal Prism	From Canal Prism	Outside Canal Prism
January	....	62,835	45,664	....
February	....	65,632	46,046	....
March	....	81,850	70,713	....
April	....	67,436	74,368	....
May	....	54,333	71,407	....
June	....	32,022	80,101	....
July	731	23,515	82,378	....
August	15,257	16,309	66,249	....
September	28,837	32,112	61,437	....
October	41,078	45,475	72,643	....
November	40,003	47,183	42,009	....
December	46,945	62,253	....	....
Totals	172,851	590,955	713,015	....

Total to January 1, 1910—1,476,821 cubic yards.
*No work done outside of Canal Prism

COLON—DREDGES.

Months.	1907		1908		1909	
	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	....	111,100	444,403	46,298	521,050	....
February	....	110,002	401,887	25,835	444,910	....
March	....	84,145	515,223	31,663	461,208	....
April	....	69,889	496,366	....	470,635	....
May	....	133,847	564,386	....	315,370	....
June	17,000	107,118	572,749	....	182,575	....
July	104,322	5,600	625,497	....	348,451	....
August	189,170	5,127	638,217	....	422,846	....
September	403,842	....	624,776	....	410,574	....
October	409,632	5,488	505,260	....	314,778	....
November	417,297	5,500	570,832	....	457,889	....
December	428,053	14,782	679,604	....	489,121	....
Totals	1,969,316	652,598	6,639,200	103,796	4,839,407	....

Total to January 1, 1910—15,631,782 cubic yards.

In this total are included 399,820 cubic yards excavated in 1905, and 1,027,645 cubic yards in 1906. There were also 38,425 cubic yards removed by dredges at the Gatun dam site in 1907.

GATUN LOCKS, DAM AND SPILLWAY—STEAM SHOVELS.

Months.	1907		1908		1909	
	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	47,539	....	193,567	98,588	69,001	33,689
February	70,177	....	176,291	106,506	61,819	33,212
March	100,151	....	202,763	171,835	59,598	30,453
April	103,459	....	196,109	177,347	58,088	11,921
May	70,528	....	138,815	127,932	48,198	4,588
June	71,181	3,832	116,998	127,953	28,943	7,613
July	59,537	14,628	136,816	76,543	36,098	2,960
August	78,357	26,866	130,263	57,999	40,346	....
September	87,423	36,315	104,780	41,210	42,047	7,898
October	136,777	40,236	109,667	44,397	41,175	16,146
November	121,635	40,987	83,527	34,751	63,452	....
December	160,795	69,756	65,950	53,954	96,590	....
Totals	1,107,559	232,620	1,655,546	1,119,015	645,355	148,480

Total to January 1, 1910—4,935,203 cubic yards.

In this total are included 26,628 cubic yards excavated from the Canal prism October to December, 1906. In addition there were 488,533 cubic yards removed by dredges from Gatun locks in December, 1908, January, February, March, April, May, June and July, 1909.

CENTRAL DIVISION.

CULEBRA SECTION—STEAM SHOVELS.

Months.	1904	1905	1906	1907	1908	1909
January	....	70,650	120,990	566,750	1,227,022	1,150,249
February	....	75,200	168,410	639,112	1,248,265	1,215,648
March	....	132,840	239,178	815,270	1,290,885	1,434,597
April	....	126,749	213,177	879,527	1,242,574	1,274,356
May	27,556	75,935	196,209	690,365	960,840	1,126,963
June	32,551	76,905	212,623	624,586	1,134,032	1,242,134
July	31,599	78,570	159,789	770,570	1,121,325	1,200,828
August	35,056	49,210	244,823	786,866	1,173,800	1,173,370
September	25,220	44,085	291,452	753,468	1,122,860	1,235,978
October	19,695	52,940	327,009	834,499	1,160,101	1,302,901
November	28,860	60,540	221,642	790,632	1,022,576	1,070,792
December	42,935	70,630	307,689	1,025,485	1,210,046	1,152,022
Totals	243,472	914,254	2,702,991	9,177,130	13,914,326	14,579,838

Total to January 1, 1910—41,532,011 cubic yards.

CHAGRES SECTION—STEAM SHOVELS.

Months.	1907*	1908		1909	
	From Canal Prism	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	....	169,447	....	389,399	....
February	....	200,145	....	428,988	....
March	....	324,233	....	619,491	....
April	....	329,483	....	508,410	....
May	....	235,902	....	386,170	....
June	....	322,145	....	275,900	....
July	....	345,757	....	233,897	....
August	2,900	366,810	....	231,543	....
September	21,546	346,948	....	235,818	....
October	25,627	424,911	....	221,409	....
November	44,044	336,390	....	93,619	....
December	98,652	383,948	....	105,044	....
Total	192,769	3,786,119	....	3,729,688	....

Total to January 1, 1910—7,708,576 cubic yards.
*No work done outside Canal prism.

CANAL EXCAVATION TO DATE.

		Cu. Yds.
By French Companies		78,146,960
By Americans—		
Dry excavation	58,225,302	
Dredges	36,744,085	
Total		94,969,387
May 4 to December 31, 1904	243,472	
January 1 to December 31, 1905	1,799,227	
January 1 to December 31, 1906	4,948,497	
January 1 to December 31, 1907	15,765,290	
January 1 to December 31, 1908	37,116,735	
January 1 to December 31, 1909	35,096,166	

EXCAVATION IN TERRITORY OF PRESENT DIVISIONS

May 4, 1904, to December 31, 1909.

DIVISIONS.	Amount excavated. Cubic yards—Total.		Estimated amount yet to be excavated. Cubic yards—Total.	
Atlantic—				
Dry excavation	6,412,024	22,570,764	3,149,887	20,506,546
Dredges	16,158,740		17,356,659	
Central—				
Culebra Cut	41,532,011	49,240,587	36,510,284	40,553,906
All other points	7,708,576		4,043,622	
Pacific—				
Dry excavation	2,572,691	23,158,036	3,357,889	18,636,755
Dredges	20,585,345		15,278,866	
Grand totals		94,969,387		79,697,207

PACIFIC DIVISION.

PEDRO MIGUEL LOCKS—STEAM SHOVELS.

Months.	1908		1909	
	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	....	....	83,726	....
February	....	....	57,138	1,104
March	....	....	93,261	2,363
April	....	....	101,365	....
May	....	....	57,523	....
June	6,832	6,396	70,971	....
July	18,964	3,684	77,503	....
August	21,203	1,014	58,025	....
September	28,750	83	48,825	....
October	47,688	1,187	39,002	....
November	55,401	....	20,207	....
December	65,578	....	28,342	....
Totals	244,416	12,364	735,888	3,467

Total to January 1, 1910—996,135 cubic yards.

MIRAFLORES LOCKS, DAMS AND SPILLWAY—STEAM SHOVELS

Months.	1908		1909	
	From Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism
January	7,203	....	54,383	6,819
February	38,661	385	44,294	9,395
March	67,963	5,231	46,616	4,801
April	92,261	6,682	38,275	21,785
May	54,606	18,417	30,723	16,865
June	68,691	....	39,942	15,711
July	87,675	16,694	43,736	7,263
August	91,065	3,183	35,338	108
September	88,605	2,318	31,363	440
October	71,201	3,499	25,118	231
November	47,109	5,821	18,644	....
December	65,416	4,234	19,843	240
Totals	780,456	66,464	428,275	83,658

Total to January 1, 1910—1,358,853 cubic yards.

There were also 78,233 cubic yards removed by steam shovels at Balboa locks and dams in 1907; 139,298 cubic yards at Cardenas Hill March to December, 1908, and 309,647 cubic yards by dredges at Miraflores Locks in January, February, March, April, May, June, July, August, September, October, and November, 1909.

BALBOA—DREDGES.

Months.	1905	1906	1907		1908	1909
	Outside Canal Prism	Outside Canal Prism	From Canal Prism	Outside Canal Prism	From Canal Prism	From Canal Prism
January	....	95,940	....	94,710	460,250	469,529
February	....	95,940	....	93,480	663,519	671,477
March	....	116,820	....	92,319	783,281	865,696
April	....	110,700	....	104,855	676,539	731,767
May	....	112,340	....	122,157	530,466	720,753
June	50,676	62,697	64,352	69,223	656,621	844,685
July	41,533	98,400	108,338	....	696,170	733,181
August	54,530	111,930	168,284	....	737,774	623,263
September	114,308	105,780	144,625	9,350	750,080	662,976
October	81,836	97,170	357,122	....	762,276	720,920
November	71,176	92,988	365,423	....	609,089	627,791
December	71,094	90,528	349,551	....	729,960	727,460
Totals	485,153	1,191,233	1,557,695	586,094	8,056,025	8,399,498

Total to January 1, 1910—20,275,698 cubic yards.

There were also 172 cubic yards removed by steam shovels outside of the prism during October, 1908.

CANAL WORK IN 1909.

Highest Point in Excavation Passed—Lock and Dam Building Now Leading Features.

The grand total of excavation in 1909 was 35,096,166 cubic yards. This was 2,020,569 cubic yards less than the grand total of 1908, for the reason that the field of operations in dry excavation had been narrowed by the completion of the work in certain sections, and because in wet excavation the dredges encountered more difficult conditions. While 1908 will stand in the record of Canal work as the banner year, the highest point touched in a single month was that of March, 1909, when for the first and only time the four million cubic yard limit was reached and passed with a total of 4,062,632 cubic yards, including 182,295 cubic yards of "plant" excavation.

A detailed statement of the excavation since the beginning of the work by the Americans on May 4, 1904, is published elsewhere in this issue of THE CANAL RECORD. It shows the following figures for each of the six calendar years:

YEAR.	CUBIC YARDS.		
	Dry.	Wet.	Total.
1904*	243,472	....	243,472
1905	914,254	884,973	1,799,227
1906	2,729,619	2,218,878	4,948,497
1907	10,961,162	4,804,128	15,765,290
1908	22,309,131	14,807,604	37,116,735
1909	21,067,664	14,028,502	35,096,166
Total	58,225,302	36,744,085	94,969,387
Remaining	43,061,682	36,635,525	79,697,207

*From May 4 to December 31, 1904.

The falling off in excavation from the total of 1908 was 1,241,467 cubic yards in dry excavation work, and 779,102 cubic yards in dredging.

Of the total dry excavation in 1909, there were taken out in the territory of the Central Division, which includes Culebra Cut and the Gatun Lake region, 18,299,526 cubic yards. The increase in the effectiveness of the steam shovel work is seen from the following comparison of the excavation per shovel day in 1908 and 1909:

MONTH.	1908.		1909.	
	No. shovels at work.	Cu. yds. per shovel day.	No. shovels at work.	Cu. yds. per shovel day.
January	51.53	1,040	51.80	1,183
February	54.00	1,112	56.05	1,260
March	53.65	1,159	56.93	1,328
April	53.04	1,191	55.40	1,284
May	53.24	905	50.60	1,185
June	55.15	1,011	45.65	1,243
July	52.58	1,071	45.08	1,207
August	52.58	1,123	46.73	1,133
September	49.69	1,180	46.60	1,248
October	49.55	1,185	47.23	1,230
November	50.91	1,155	41.75	1,161
December	50.73	1,210	43.15	1,123

The work is affected by the rainy season from May to December.

In Culebra Cut, where the excavation was continued on practically the same scale as in 1908, the amount excavated was 14,579,838 cubic yards in 1909, as compared with 13,914,326 cubic yards in 1908. Although it is considered that the maximum excavation in the Cut is that of March, 1909, it is also expected that there will be little, if any, falling off in the total excavation in this part of the work during the present year. The work of widening the channel between Las Cascadas and Paraiso, a distance of four and one-half miles, from 200 to 300 feet at the bottom, was authorized in October, 1908, and during 1909, the excavation was carried on with this end in view. The consequent opening up of new banks caused a number of slides that were a source of inconvenience during the rainy season. The completion of the drainage system by opening the Obispo Diversion and installing pumps at Bas Obispo was another feature of the work in Culebra Cut during 1909.

At the Atlantic and Pacific entrances to the Canal the dredges have made, but not completed, a channel over five miles into the land, and the Pacific entrance was so far advanced on February 1 that steamships began to use that portion of the Canal.

At Gatun Locks, the preparatory work of installing the concrete mixing and handling plant was completed, and the laying of concrete with the permanent plant was begun on August 24. Since then there has been a steady increase in the amount of concrete laid each week, due to increasing effectiveness in the plant and in its operation. Up to the close of the year, 116,186 cubic yards of concrete had been laid, and the daily average had increased from 459 cubic yards in September, to 1,672 cubic yards in December, while in one instance over 2,000 cubic yards were placed in one day of 12 hours. The estimated amount of concrete necessary for completing these locks is 2,096,000 cubic yards.

The hydraulic fill between the rock toes of Gatun Dam was begun on December 24, 1908, and the results accomplished in this work belong, therefore, to the year 1909. From one to three 20-inch suction dredges have been engaged and they have pumped 2,044,992 cubic yards of selected material into the Dam. The dry fill now amounts to 2,515,524 cubic yards, the total being 4,560,516 cubic yards. The estimated fill to be made by the hydraulic method is 20,000,000 cubic yards. On February 17, 1909, by order of President Roosevelt, the proposed height of the Dam was reduced from 135 feet above sea level to 115 feet, which will make the top 35 feet above the normal level of the water impounded in Gatun Lake.

One week after the laying of concrete, with the permanent plant, was begun at Gatun Locks, a temporary plant was put in operation at Pedro Miguel and the laying of concrete in the locks at that point was begun. This temporary plant laid 33,994 cubic yards of concrete between September 1, and December 31. The estimated amount to be placed at this point is 922,600 cubic yards. Work on the cantilever cranes for the permanent handling plant is in progress. The construction of the earth dam at Pedro Miguel was continued during part of the year.

At Miraflores, excavation in the upper lock chamber was practically completed during the year; excavation in the lower lock chamber was continued, and the work of building storage trestles for the cantilever concrete mixing and handling plant was begun. A total of 557,587 cubic yards of filling had been placed in the dam at Miraflores Locks up to December 31.

Small Fire at Rio Grande Quarry.

A small wooden building at the Rio Grande quarry, part of which was used as an office and the remainder as a storehouse, caught fire about one o'clock on the morning of Monday, January 10, and was entirely destroyed. The office contained a small amount of furniture and some records pertaining to the quarry and crusher operations, while the contents of the storehouse consisted of a quantity of oil, waste, repair parts for the crusher machinery, etc.

Immigrant Inspector Examination.

THE CANAL RECORD:

In THE CANAL RECORD for December 29, I published the advertisement of a Civil Service examination for the position of Immigrant Inspector in the United States. The notice was repeated in the CANAL RECORD for January 5. In consequence of the publication of this notice, I received applications from thirty-five persons who wished to enter the examination. I was able to admit only five applicants, owing to the fact that but five sets of the examination papers were forwarded to me by the United States Civil Service Commission. Preference was given to the five persons whose applications were first received.

As those whose applications were rejected may not clearly understand the reason for my action, I desire to say that the local Civil Service Board does not ordinarily hold examinations, except for positions on the Isthmus of Panama. The local board, however, has usually been authorized to examine applicants on the Isthmus for appointment to positions in the United States, when the persons interested have requested that such authority be obtained. In this particular instance, Mr. Claude Brown, employed in the Central Division, had learned that an examination for Immigrant Inspector was to be held in the United States on January 5. He requested that arrangements be made to admit him to this examination on the Isthmus. The matter was handled as indicated in the following cablegrams:

Cablegram sent December 18:

"Ascertain from Civil Service Commission whether Claude Brown can take examination for Immigrant Inspector January 5, on the Isthmus."

Cablegram received December 24:

"Referring to your cable of the 18th inst. Civil Service Commission authorizes immigrant inspector examination immediately on receipt of the papers Five sets will be shipped on the steamship *Panama* on the 4th proximo."

The examination was advertised in order that the additional four sets of papers might be used. If it had been foreseen that the interest in this examination would be so general, arrangements might have been made for an adequate supply of papers, but within the brief time at my disposal this was not practicable. The papers were actually received on January 2, and the examination was held on Sunday, January 9.

Respectfully,
JOHN K. BAXTER,
Secretary, Isthmian Civil Service Board.

CULEBRA, C. Z., January 10, 1910.

Benefit Vaudeville Entertainment.

An all-star vaudeville entertainment will be given in the National Theater, in Panama, on the evening of January 29, for the benefit of the Church of the Holy Redeemer at Culebra. Tickets for single seats will be on sale at the Hotel Tivoli, Ancon; at Hotel Central, Panama, and at the Commission clubhouses. The boxes will be sold at auction on Sunday, January 23, at 10 a. m., at the office of the District Quartermaster in Ancon.

FEDERATED WOMEN'S CLUBS.

Canal Zone Women Convene at Cristobal.

The midseason meeting of the Canal Zone Federation of Women's Clubs was held at Cristobal on Saturday, January 8. More than 60 club women crossed the Isthmus on the morning train, in the special coach reserved for their use by the courtesy of the Panama railroad, to attend the meeting.

The morning session was called to order in the Commission clubhouse at 9.30 o'clock by the president, Mrs. Thomas E. Brown, jr. On behalf of the Cristobal Woman's Club, the delegates were welcomed by Mrs. Carl H. Elliott. Following the routine business, the reports of the Federation committees were read. The general work of these committees includes club matters, in connection with the General Federation of Women's Clubs, and public affairs of interest. The art and literature committee called attention to a circular issued by the art and literature committee of the General Federation, outlining a plan for an interstate literary contest in which all women in the federated clubs are invited to co-operate. The education committee is still working on the question of kindergartens in the Zone public schools. The investigations show that there are approximately 450 American children, between the ages of 3 and 6 years, for whom no provision is made in the educational system of the Canal Zone. The committee's reports showed that the Department of Schools is in sympathy with the movement.

The federated clubs responded to a request from the philanthropy committee for subscriptions toward the Christmas box for the patients in the leper asylum at Palo Seco. Personal gifts were sent to each of the 34 inmates of the institution. These included pipes and tobacco for the men, shawls and scarfs for the women, and games and dolls for the children. Beside these, there were boxes of candy, and three gifts for general recreation—croquet, archery and nine pins. Two boxes of literature were also forwarded to the Canal Zone penitentiary.

The library extension committee reported progress. A health committee has been formed, and the report of the chairman, Miss Emily C. Thompson, included a comprehensive review of the health conditions on the Isthmus, from the beginning of the American occupation, to the present time. Mrs. E. C. Mills of Empire, has been appointed vice-chairman of the forestry and waterways (conservation) committee, to work in co-operation with the chairman, Miss G. Marie LePrince. Miss LePrince has recently been appointed on the board of the General Federation.

The reports of the various clubs showed progress and solidity of organization. Membership is increasing; the women are enthusiastic, and an active club life has developed among them. Successful Christmas bazaars were held by the Cristobal and Pedro Miguel clubs. As a result of the former, the home department of the Cristobal Woman's Club contributed toward gifts for every child in Colon, regardless of creed or color, and the American children in Cristobal. The philanthropy department has been successful in securing space on Cristobal beach for a playground. Equipment of swings, seesaws and a sand pile are provided for the American children.

The Gorgona and Paraiso clubs are interested in the study of parliamentary law. The social meetings of the latter club are made interesting, and the membership is constantly increasing. The study of household economics, art embroidery, and philanthropic work occupy the Gorgona club. A box of magazines has been contributed to the Zone penitentiary. The club is forming a Birthday Club as a branch of the regular organization. The purpose is to promote sociability among the members, and to establish means of keeping in touch with those who leave the Isthmus for permanent residence elsewhere.

Federation colors of green and gold were chosen. A Federation pin was authorized, the design showing a ship passing through the Canal. Mrs. E. J. Williams was elected fourth vice-president of the Federation.

At 12 o'clock, a recess was taken for lunch, which was served in the banquet room of the Washington Hotel. Mrs. William Jennings Bryan and Miss Bryan, and Mrs. Frank M. Bristol were the guests of honor. Covers were laid for 60. A special menu was served and appropriate souvenirs presented.

The afternoon meeting convened in the entertainment hall of the clubhouse. The program consisted of selections by the Cecilian Ladies' Chorus of the Cristobal club, piano solo by Mrs. Stanton, and two addresses. Judge Lorin C. Collins spoke on the unrest of the modern woman, and William Jennings Bryan on the signs of the times, grouping his remarks under three heads: the intellectual, political, and moral aspects.

In response to the request of the president, Mrs. Bryan and Mrs. Bristol spoke briefly, both expressing their interest in the general club movement and appreciation of the efforts of the Zone women. A general reception followed, refreshments being served.

The next meeting of the Federation will probably be held at Empire in accordance with an invitation extended by the president of the woman's club at that place.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Gorgona, C. Z., on Sunday, January 16, 1910, at 6 p. m. The program follows:

1 March—*In Storm and Sunshine*.............Heed
2 Selection—*The Fair Co-ed*.................Luders
3 { *a* Intermezzo Two Step—*Mollie Lee*......Morse
  { *b* Rag Novellette—*Dope*.................Powell
4 Overture—*Fest*...........................Latann
5 Waltz—*Moonlight on the Hudson*..........Tobani
6 Paraphrase—*Silver Threads Among the Gold*..........Danks
7 Descriptive—*Battle of San Juan Hill*.......Sweet

Synopsis—The sleeping camp. Dawn appears. A cock crows and birds sing. Reveille is heard and the camp is soon in motion. Assembly call. The infantry falls into line of battle and marches to the scene of action. Adjutant's call. The cavalry approaches. Battle prayer. The battle is on. Grand melée of infantry, cavalry and artillery. Triumph of the American arms. The Star Spangled Banner. Finale.

8 Morceau Elegante—*Golden Blonde*.....Eilenberg
9 Barn Dance—*Stack of Fun*..................Rolfe
10 March *Grand Opera*.......................Missud

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Las Cascadas, Sunday, January 30, at 6 p. m.

ATLANTIC LEAGUE.

RESULTS OF GAMES, JANUARY 9.

Civil Administration, 13; Colon, 8.
Commissary-Subsistence, 8; P. R. R., 4.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*P.*	*W.*	*L.*	*Pc.*
Civ. Adm..	1	1	0	1.000	Colon	1	0	1	.000
Com Sub...	1	1	0	1.000	P. R. R....	1	0	1	.000

SCHEDULE FOR JANUARY 16.

Civil Administration vs. P. R. R.
Commissary-Subsistence vs. Colon.

BASEBALL.

ISTHMIAN LEAGUE.

RESULTS OF GAMES, JANUARY 9.

At Ancon—Gorgona, 9; Ancon, 8.
At Empire—Empire 6; Marines, 2.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*P.*	*W.*	*L.*	*Pc.*
Gorgona ...	7	6	1	.857	Ancon......	4	2	2	.500
Empire	5	3	2	.600	Marines	6	0	6	.000

SCHEDULE FOR JANUARY 16:

Marines at Ancon.
Gorgona at Empire.

Gorgona.	R.	H.	PO.	A.	E.	Ancon.	R.	H.	PO.	A.	E.
Dongherty, 2b	1	2	4	2	0	Pearman, 3b..	0	3	4	1	2
Magee, lf.....	1	1	5	0	0	Nygren, 1b...	0	0	6	0	1
Barney, c, 1b.	0	2	5	1	2	Keller, lf......	0	1	2	0	0
Wright, 1b....	1	0	4	0	0	Smith, 2b.....	2	2	2	2	1
Ridge, rf.....	0	0	0	0	0	Yingling, c...	1	1	8	4	0
Herring, rf, c.	0	2	4	2	2	Tinsley, ss, p.	2	1	2	4	0
Cole, ss.......	1	2	2	2	0	Snyder, rf, ss.	1	0	0	2	0
Clements, cf..	3	3	0	0	0	Hunter, cf....	1	2	2	0	1
Emery, 3b....	2	2	3	4	0	Francis, p....	0	0	0	0	0
Case, p.......	0	1	0	0	1	Poltrino, rf...	1	1	1	0	0
Total........	9	15	27	11	5	Total........	8	11	27	13	5

Gorgona.................	2	3	0	0	0	0	0	1	3	—9
Ancon	0	0	4	0	0	1	2	0	1	—8

Runs earned—Gorgona, 5; Ancon, 2. Two base hits—Dougherty (2); Herring, Smith, Hunter. Home run—Cole. Sacrifice fly—Case. Stolen bases—Magee, Barney (2); Wright, Herring, Clements, Case, Pearman, Smith, Yingling, Tinsley (2); Poltrino (2.) Bases on balls—Off Case, 3; off Francis, 1; off Tinsley 1. Struck out—By Case, 6; by Francis 1; by Tinsley, 6. Hit by pitcher— by Case, 1; by Tinsley, 1- Left on bases—Gorgona, 11; Ancon, 8. Double play—. Dougherty to Barney. Umpire—Irwin. Time of game—Two hours and thirty-five minutes.

Empire.	R.	H.	PO.	A.	E.	Marines.	R.	H.	PO.	A.	E.
Bryan, ss.....	1	1	7	2	0	McGuire, 1b..	1	0	7	0	1
Moore, c......	1	1	11	4	1	Hurrle, lf.....	0	1	0	0	0
S. Flnharty, 2b..........	1	1	0	0	0	Burke, lf.....	0	1	3	1	0
Bell, 1b......	1	2	5	0	1	Lubomski, rf	1	3	0	0	1
E. Fluh'ty, lf.	0	0	2	1	0	Snyder, 2b....	0	0	4	1	1
Toone, 3b....	1	2	1	0	0	Scarff, ss.....	0	1	3	2	1
Herring, rf..	1	1	0	0	0	Heinz, cf.....	0	1	1	0	0
Murphy, cf..	0	1	1	0	1	Volman, 3b...	0	1	3	2	1
Willis, p.....	0	0	0	2	1	Todd, c.......	0	0	1	3	1
						Conway, c....	0	0	2	2	0
						Synnott, p....	0	0	0	2	0
Totals......	6	9	27	9	4	Munsen, p....	0	0	0	1	0
						Totals.......	2	8	24	14	6

Empire..................	0	0	6	0	0	0	0	0	x	—6
Marines..................	0	0	0	0	0	1	0	0	1	—2

Runs earned—Empire, 1. Two base hit—Scarff. Sacrifice hits—Moore, Fluharty. Stolen bases—Lubomski, 4; Snyder, S. Flnharty, Bell, Toone, Herring, 2; Murphy, 3; Willis. Bases on balls—Off Willis, 3; off Synnott, 2. Struck out—By Willis, 10; by Synnott, 1; by Munsen, 2. Hit by pitcher—By Synuott, 1; by Munsen, 1. Left on bases—Empire, 9; Marines, 4. Double plays—Burke to Synder; Scarff to Volman; E. Fluharty to Bryan; Willis, Moore to Bryan. Umpire—Sorrell Time of game—One hour and fifty-five minutes. Scorer—W. H. Hall.

Colon.	R.	H.	PO.	A.	E.	Civil Admin.	R.	H.	PO.	A.	E.
Weber, ss, lf..	1	0	0	0	0	Ridge, 2b	0	0	3	0	0
Foster, 1b....	1	1	3	1	0	Ferrar, cf......	2	3	5	0	0
Souders, 3b...	0	2	4	1	3	Bath, 3b.......	0	1	1	0	3
Jeffries, ss....	1	0	0	0	0	Daly, rf.......	0	0	0	0	1
Hoffman, lf...	1	1	0	0	2	Fechtig, lf....	3	1	0	0	0
Jorden, rf.....	1	1	0	0	0	Edwards, 1b..	3	3	6	0	0
Odea, 2b......	2	1	1	0	0	Rex, c.........	2	2	6	3	1
Morrell, cf....	1	1	0	0	0	Fleishman, ss.	3	2	0	2	1
Kenney, c....	0	2	13	3	0	Cook, p.......	0	0	0	1	0
Stevens, p....	0	1	0	0	1	Total........	13	12	21	6	6
Total.......	8	10	21	5	6						

Civil Administration.........	0	4	1	0	1	2	5—13
Colon,........................	2	0	4	0	1	0	1— 8

Earned runs—Colon, 2. Three base hit—Souders. Two base hits—Stevens, Kenney, Hoffman, Fleishman, Edwards, Ferrar. First base on balls—off Cook, 5; off Stevens, 5. Sruck out—by Cook, 6; by Stevens, 12. Hit by pitcher—Cook, Odea. Left on bases—Colon, 7; Civil Administration, 7. First base on errors—Colon, 2; Civil Administration, 5. Time—One hour and fifty minutes. Umpire—Rohr.

P. R. R.	R	H.	PO.	A.	E.	Com.-Sub.	R.	H.	PO.	A.	E.
Bryan, lf......	2	0	2	0	2	Smith, ss......	1	1	0	1	0
Lewis, 3b, c..	1	1	5	0	1	McC'm'k, lf...	1	0	0	0	1
Christopher c. p.........	0	1	2	4	2	Payne, 1b.....	1	1	4	0	0
						Muggleton, 2b	1	1	2	1	0
McGinnis, cf.	1	1	2	0	0	Beard, rf......	1	0	1	0	0
Dock'ry, 2b, 3b	0	1	0	1	1	Lindberg, cf..	0	0	1	0	0
Hoffman, ss..	0	0	0	2	1	Gilmartin, 3b.	1	1	1	0	1
Hiller, 1b.....	0	0	6	0	0	McC's'ty, c....	1	2	11	2	1
Stratton, rf...	0	0	0	0	0	Sim'ns, p......	1	1	1	3	1
Heal, rf	0	0	0	0	0						
Marshall, p, 3b	0	0	1	2	4	Total........	8	7	21	7	4
Total.......	4	4	18	9	11						

Commissary-Subsistence.....	2	0	6	0	0	0	x—8
Panama railroad..............	2	0	1	0	0	0	1—4

Earned runs—Panama railroad, 1. Two base hits—Lewis, Christopher, McGinnis, Gilmartin. Struck out—By Simmons, 11; by Marshall, 2 in three innings; First base on balls—Off Simmons, 9; off Marshall, 4. off Christopher, 2. Left on bases—Commissary-Subsistence, 9; Panama railroad, 9. First base on errors—Commissary-Subsistence, 6. Hit by pitcher—Smith, McGinnis, Dockery. Time—Two hours. Umpire—Rohr.

OFFICIAL CIRCULARS.

Pricing of Material.

CULEBRA, C. Z., January 7, 1910.

LIEUT.-COL. C. A. DEVOL,
Chief Quartermaster, Culebra C. Z.

Sir: Pursuant to recommendation contained in your memorandum of December 16, a committee was appointed by me to submit recommendations covering the future method of pricing material on the Isthmus. This committee, under date of January 4, has submitted the following report, which is approved, and by which you may be governed in future:

"After a thorough examination of the system in vogue at Mount Hope Depot, it was found impracticable, both for the sake of promptness and economy, to price material at actual invoice prices, as such a method would result either in delay in shipping and furnishing vouchers, or in an increase of expenses. It is therefore recommended that the material be priced from a price book to be compiled by the Depot Quartermaster from the latest prices available, such prices to be computed on basis of Isthmus cost, and revised every six months. In cases of wide fluctuations correction notices to be sent by Depot Quartermaster at once. Shipments from Mount Hope Depot to storehouses and district quartermasters will not be priced, but all material issued by the district quartermasters and storehouses and direct shipments from Depot will be priced. Material manufactured on the Isthmus will be priced at the actual cost of production, and local purchases will, as far as practicable, be priced at actual cost. By this method, all prices will be set by the Quartermaster's Department, and they will govern in compiling cost statements.

In order to take care of any differences between the price book prices and the actual cost of material and also to absorb the value of material condemned on survey, it is recommended that the Chief Quartermaster furnish the Examiner of Accounts, at the close of each fiscal year, a statement of the value of the material on hand at storehouses and unapplied, with a view of absorbing any difference between the book value of material and supplies, and the first-mentioned statement, into the cost of the work."

Respectfully,
GEO. W. GOETHALS, *Chairman.*

Repairs to Locomotives.

CULEBRA, C. Z., January 5, 1910.

CIRCULAR NO. 300:

Effective this date the following rules govern repairs to locomotives of the Isthmian Canal Commission and Panama railroad in Gatun, Cristobal and vicinity:

1. Heavy repairs, on which the labor cost is $500 or more, to all locomotives of the Isthmian Canal Commission and Panama railroad shall be made at the Gorgona shops. The Panama railroad may complete the rebuilding of the remainder of the 100-class engines at the Cristobal shops, the material and parts having already been assembled there and the work partly done.

2. All light repairs, the estimated cost of which for labor will exceed $50, but is less than $500, to all locomotives of the Isthmian Canal Commission and Panama railroad in Cristobal, Gatun and vicinity, shall be made at the Cristobal shops.

3. Running repairs to Isthmian Canal Commission locomotives at Gatun and vicinity, estimated to cost not more than $50 for labor, and the hostling of these locomotives, shall be done at Gatun.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission,
President, Panama Railroad Company.

Rifle, Gun and Pistol Clubs.

ANCON, C. Z., January 4, 1910.

Regulations for the Government of Rifle, Gun or Pistol Clubs in the Canal Zone Applying for the Benefits Granted in the Executive Order Issued by the Secretary of War, December 1, 1909.

SECTION 1. Every rifle, gun or pistol club at present organized in the Canal Zone, or that may hereafter be organized in the Canal Zone for the promotion of rifle, gun or pistol practice, to secure the benefits granted such clubs by the Executive Order of December 1, 1909, shall submit to the Chairman of the Commission, for his approval, a certified copy of its constitution and by-laws and a list of the officers of the club, which, after approval, shall be filed with the Collector of Revenues of the Canal Zone; and shall comply with these regulations and such as may be promulgated hereafter under the provisions of the Executive Order of December 1, 1909.

SEC. 2. The officers of each rifle, gun or pistol club that has complied with the requirements of the foregoing section shall file with the Collector of Revenues of the Canal Zone a list of the charter members of the club, and from time to time a list of new members received into the organization. These lists shall set forth the full name, age and place of residence on the Isthmus of each member in good standing who is entitled to the exemptions provided for in the Executive Order of December 1, 1909, and, where members are employes of the Isthmian Canal Commission or the Panama Railroad Company, their metal check numbers shall be given.

SEC. 3. The Collector of Revenues shall issue to each member in good standing of a rifle, gun or pistol club that has complied with the first and second sections of these regulations, a certificate of membership, which certificate shall give the full name of the member, his place of residence on the Isthmus, the name of the rifle, gun or pistol club of which he is a member, the character of the firearm which the certificate entitles him to carry, and, if he is an employe of the Isthmian Canal Commission or the Panama Railroad Company, his metal check number. The certificate issued by the Collector of Revenues shall exempt the person to whom it is issued from the payment of the license or tax provided for by the laws of the Canal Zone for carrying loaded firearms in the Canal Zone only when going to and from a target range and while engaged in target practice at a target range.

SEC. 4. Nothing in these regulations shall be construed as granting permission to any member of a rifle, gun or pistol club to carry a loaded firearm, except as hereinbefore provided, or to hunt with a firearm in the Canal Zone.

SEC. 5. Any member of a rifle, gun or pistol club to whom has been issued a certificate entitling him to carry a loaded firearm to and from a target range or engage in target practice at a target range, who endeavors to use the certificate of membership as authority to hunt in the Canal Zone or as authority to carry or have a loaded firearm in violation of the laws of the Canal Zone shall, in addition to such punishment as is fixed by the laws of the Canal Zone, for such violation, forfeit his membership certificate and in future be denied the privilege of a certificate of membership in any rifle, gun or pistol club in the Canal Zone.

H. H. ROUSSEAU,
Acting Head of Department of Civil Administration.

Approved:
GEO. W. GOETHALS,
Chairman of the Commission.

Rainfall, January 1 to 8, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS	Maximum in one day.	Date.	Total for period.
Atlantic Division—	*Ins.*		*Ins.*
Cristobal	1 13	1	2 11
Brazos Brook	.91	1	2.18
Gatun	.97	1	2.51
Central Division—			
Bohio	.68	1	1 62
Tabernilla	.69	1	1.00
San Pablo	.38	1	.63
Gorgona	.50	2	.84
Gamboa	.30	1	.61
Empire	.16	5	.40
Camacho	63	6	1 43
Culebra	.73	5	.98
Pacific Division—			
Rio Grande	.93	5	1 39
Pedro Miguel	.77	5	1.62
Miraflores	1.55	3	3.08
Balboa	.53	5	.82
Ancon	.80	5	1.01
Atlantic Coast—			
Porto Bello	4.74	5	11.25
Nombre de Dios	......	....	......
Upper Chagres—			
El Vigia*	.28	6	.28
Alhajuela	2.27	6	2.61

*Station reestablished January 3, 1910.

Launch Service to Taboga.

The steamer *Sanidad* leaves the dredge landing at Balboa at 9 o'clock Tuesday, Thursday and Saturday mornings. On the return trip it arrives at Balboa about 4.30 p. m. in time to make connections for the 5.30 train at Panama

Vessels arriving and departing from Balboa during the week ending January 8 were as follows:

Arrivals—January 1, *Ecuador*, from Guayaquil; January 3, *Chiriqui*, from intermediate ports; January 5, *Pectan* (oil steamer), from Port Harford; *Cavalier* (private yacht), from Guayaquil; January 6, *Aysen*, from south ports.

Departures—January 1, *City of Sydney*, for San Francisco; January 2, *Chile*, for south ports; January 5, *Manavi*, for intermediate ports; January 7, *Pectan*, for Port Harford; *Ecuador*, for Guayaquil.

LOST—A gold watch chain with Masonic keystone attached. Finder will be rewarded by returning the same to D. C. Simons, Panama railroad commissary, Cristobal, C. Z.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

The indoor baseball team is practicing regularly in preparation for the league games which will be played once a week from now on. The next game of the series will take place at Cristobal, on Saturday night, January 15.

The pool and billiard tables have been leveled up and made true. It has been found that they need continuous adjusting owing to the heavy blasting in the Cut. New cushions and covers have also been provided.

Mr. E. J. Vogel, winner of the chess medal, played a simultaneous chess match against all comers recently. Much interest was manifested in the feat.

Mr. Harlan O. Hostetter, has been appointed a member of the Culebra executive council, in place of Mr. J. M. Weaver, who has been transferred to Cristobal.

EMPIRE.

Twenty-eight men have entered the local duck pin tournament, which promises to be a warmly contested event. The standing of the first five high average men is as follows:

	No. of games.	*Average.*
Potter	15	91.14
Fishbaugh	10	91.10
Gustafson	13	89.1
Lindgren	16	88.13
Herring	13	88.5

The standing, with reference to the number of games played and won, is as follows:

	Games played.	*Games won.*
Lindgren	16	12
Potter	15	11
Fishbaugh	13	10
Cohen	12	9
Herring	13	9

The first game of the Interassociation Indoor Baseball League was played between Empire and Culebra, on Friday night January 7, resulting in a score of 30 to 29 in favor of Culebra. The next game of the series will be played with Gorgona, at the local clubhouse, on Saturday night, January 15.

A replica of the Y. M. C. A. emblem, in oil colors, on metal, in the form of a wall plaque, has been executed and presented to the Empire association by Mr. Charles H. Hinckley.

GORGONA.

The opening game of indoor baseball in the inter-association series took place on Saturday night, January 8, in which Gorgona won from Culebra by a score of 35 to 21. There was a good attendance. The local team has selected Monday and Thursday nights for practice.

Rev. Aquila Lewis, secretary of the International Sunday School Association, gave an interesting address at the clubhouse on Sunday night, January 9. His subject was "Hope—Responsibility."

The members of the Gorgona association regret to learn of the death of Mr. Fred. A. Borck, a former member and loyal friend.

An order will be forwarded this week for new library books. Any member who desires to submit the name of a favorite book should do so before Friday night.

The cadet club of the boys' department will meet this week on Monday and Thursday afternoons, and Saturday morning.

CRISTOBAL.

The keen interest shown in basketball has resulted in the organization of a local league, consisting of four teams, with a total of 26 players. A schedule of 18 games has been arranged, and Monday and Friday nights have been chosen for the contests. The opening game occurred on Monday night, January 2, with a double-header, which resulted as follows:

	Score.
Strong's "Swastika Five"	11
Herrington's "All Stars"	10
Luce's "Nut-Splitters"	26
Simka's "Head-Liners"	17

GENERAL NOTES.

The six lectures given by Hon. William Jennings Bryan, under the management of the Y. M. C. A., were a decided success. Four of these lectures were given in the clubhouses, one at Gatun and the sixth in the National Theater in Panama. The audiences were uniformly large. The lectures which Mr. Bryan delivered, "The Prince of Peace," and "The Price of a Soul," were along religious and ethical lines. The Y. M. C. A of the Canal Zone wishes to express its appreciation and thanks to those who assisted in Mr. Bryan's entertainment.

The next attraction to appear in the Y. M. C. A. "Star Course" will be the "Edith Harris-Scott Concert Company," a troupe of five people, which will arrive on the Isthmus early in February.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning January 10:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	27
Chops	per lb	29
Cutlets	per lb	29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	20
Beef—Suet	per lb	4
Soup	per lb	6
Stew	per lb	10
Corned	per lb., 12, 14,	16
Chuck roast	per lb	14
Pot roast	per lb	16
Rib-roast, second cut (not under 3½ pounds)	per lb	19
Rib-roast, first cut (not under 3 pounds)	per lb	21
Sirloin roast	per lb	22
Rump roast	per lb	22
Porterhouse roast	per lb	22
Steak, Chuck	per lb	15
Round	per lb	16
Rib	per lb	21
Sirloin	per lb	22
Porterhouse	per lb	22
Rump	per lb	22
Tenderloin	per lb	24

MISCELLANEOUS

Livers—Beef	per lb	8
Calf	each	65
Half	each	35
Sausage—Pork	per lb	14
Bologna	per lb	14
Frankfurter	per lb	14
Leberwurst	per lb	14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	25
Oysters, in 1-quart kegs	keg	55
Oysters, in ½-gallon kegs	keg	90
Eggs, fresh	dozen	40

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, fatted, large	each	†1.50
medium	each	†1.30
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese	each	2.70
Rabbits, skinned	each	40

CURED AND PICKLED MEATS.

Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Sugar cured	per lb	20
Sugar-cured, sliced	per lb	§25
Half, for boiling	per lb	§21
Boiled	per lb	28
Hocks	per lb	‡8
Bacon—Breakfast, whole piece	per lb	25
Breakfast, sliced	per lb	27
Beef, salt, family	per lb	10
Pork, salt, family	per lb	15
Ox tongues	each	1.00
Pigs' feet	per lb	8
tongues	per lb	16
Mutton, mess	per lb	7½

DAIRY PRODUCTS.

Butter—Prints, prime quality	per lb	45
Cheese—Roquefort	per lb	45
Cheese—Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	28
Edam	each	1.05
Camembert	per lb	28
Neufchatel	each	6
Gouda	per lb	34
Parmesan	bottle	20
French cheese in tins—Camembert, Brie, Neufchatel	1-lb tin	20
Milk, Briarcliff	bottle	**25
Butter	bottle	**15

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	5
Lettuce	per hd 8, 11,	14
Cucumbers	per lb	18
Potatoes, white,	per lb	3
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	3
Squash	per lb	4
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	4
Cabbage	per lb	3
Lemons	dozen	24
Cranberries	per lb	10
Apples,	per lb	5
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4
Pineapples	each	18

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, January 8, 1910.

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft..	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Jan. 2	....	101.0	57.2	22.7	15.5	14.5
Monday, Jan. 3	130.8	96.9	51.4	18.1	13 8	12.8
Tuesday, Jan. 4	130.6	96.6	50.8	15.6	11.2	10.0
Wed'esday, Jan. 5	134.7	99.5	52.9	14.0	9.0	8.1
Thursday, Jan. 6	131.4	97.1	51.8	14.6	7.5	6.5
Friday, Jan. 7	131.7	97.6	51.1	13.5	6.8	5.7
Saturday, Jan. 8	129.3	95.8	49.6	12.9	6.0	4.9

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending January 19, 1910 (75th meridian time):

DATE.	Low.	High.	Low.	High.	Low.
	A. M.	A. M.	A. M.	P. M.	P. M.
January 13	....	4.51	11.14	5.20	11.34
January 14	....	5.34	11.57	6.02	....
			P. M.		
January 15	12.18	6.17	12.39	6.45	....
January 16	1.04	7.02	1.20	7.31	....
January 17	1.53	7.49	2.13	8.20	....
January 18	2.45	8.41	3.05	9.12	....
January 19	3.42	9.40	4.03	10.12	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal and Colon, during the week ending January 8, 1910, with supplies for the Isthmian Canal Commission:

Advance, January 4, from New York, with 6 tons shafting, 19 tons dredge repair parts and 5 transformers for Atlantic Division; 40 tons steam shovel repair parts for Central Division; 46 tons steel forms for Pacific Division; 12 tons steel angles and 190 locomotive springs for Gorgona shops; 152 tons steel castings, etc. for locks; 4,335 electric fuses, 95 tons steel bars, etc., 30 tons bolts and nuts, 1,000 lining bars, 56 coils Manila rope, 600 scoop shovels, 5,000 gallons lubricating oil and 3½ tons pipe-fittings for stock; and a miscellaneous cargo aggregating 3,545 packages, weighing 552 tons.

Ancon, January 5, from New York, with 12,000 barrels and 48,000 bags cement for Atlantic Division; 416 tons structural steel, etc., for handling plant, Pacific Division.

Sarnia, January 5, from New York, with 15,000 pounds calcium carbide for Atlantic Division; 300,000 tie plugs and 3 tons pipe-fittings for stock.

Cartaga, January 6, from New Orleans, with 5,000 feet poplar lumber, 50 bedroom mats and 100 switch stands for stock; 215 chickens for Ancon chicken farm; 30,000 pounds cotton-seed hulls and 30,000 pounds alfalfa hay for Ancon dairy; 4,500 feet white oak lumber for car repairs; 6,800 feet white oak lumber, 18,000 feet yellow pine lumber and 1 concrete mixer for Pacific Division; 28 reels wire rope for cableways at Gatun.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Allianca	P. R. R.	Monday	Jan. 10
Colon	P. R. R.	Monday	Jan. 17
Advance	P. R. R.	Saturday	Jan. 22
Panama	P. R. R.	Friday	Jan. 28
Allianca	P. R. R.	Thursday	Feb. 3
Colon	P. R. R.	Thursday	Feb. 10
Advance	P. R. R.	Wednesday	Feb. 16
Panama	P. R. R.	Wednesday	Feb. 23
Allianca	P. R. R.	Tuesday	Mar. 1
Colon	P. R. R.	Monday	Mar. 7
Advance	P. R. R.	Saturday	Mar. 12
Panama	P. R. R.	Friday	Mar. 18
Allianca	P. R. R.	Thursday	Mar. 24
Colon	P. R. R.	Thursday	Mar. 31

CRISTOBAL TO NEW YORK.

Panama	P. R. R.	Saturday	Jan. 15
Ancon	P. R. R.	Sunday	Jan. 16
Allianca	P. R. R.	Friday	Jan. 21
Colon	P. R. R.	Friday	Jan. 28
Advance	P. R. R.	Thursday	Feb. 3
Panama	P. R. R.	Wednesday	Feb. 9
Allianca	P. R. R.	Tuesday	Feb. 15
Colon	P. R. R.	Tuesday	Feb. 22
Advance	P. R. R.	Monday	Feb. 28
Panama	P. R. R.	Monday	Mar. 7
Allianca	P. R. R.	Sunday	Mar. 13
Colon	P. R. R.	Saturday	Mar. 19
Advance	P. R. R.	Friday	Mar. 25
Panama	P. R. R.	Thursday	Mar. 31
Allianca	P. R. R.	Wednesday	Apr. 6
Colon	P. R. R.	Tuesday	Apr. 12

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyon waiting room on pier 11.

NEW YORK TO COLON.

Clyde	R.-M.	Saturday	Jan. 8
Prinz Aug. Wilhelm	H.-A.	Saturday	Jan. 15
Thames	R.-M.	Saturday	Jan. 22
Prinz Joachim	H.-A.	Saturday	Jan. 29
Atrato	R.-M.	Saturday	Feb. 5
Prinz Aug. Wilhelm	H.-A.	Saturday	Feb. 12
Tagus	R.-M.	Saturday	Feb. 19
Prinz Joachim	H.-A.	Saturday	Feb. 26
Oruba	R.-M.	Saturday	Mar. 5

COLON TO NEW YORK.

Thames	R.-M.	Wednesday	Jan. 12
Prinz Joachim	H.-A.	Tuesday	Jan. 18
Atrato	R.-M.	Wednesday	Jan. 26
Prinz Aug. Wilhelm	H.-A.	Tuesday	Feb. 1
Tagus	R.-M.	Wednesday	Feb. 9
Prinz Joachim	H.-A.	Tuesday	Feb. 15
Oruba	R.-M.	Wednesday	Feb. 23
Prinz Aug. Wilhelm	H.-A.	Tuesday	Mar. 1

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

NEW ORLEANS TO COLON.

Abangarez	U.F.C.	Saturday	Jan. 8
Atenas	U.F.C.	Saturday	Jan. 15
Turrialba	U.F.C.	Saturday	Jan. 22
Abangarez	U.F.C.	Saturday	Jan. 29

COLON TO NEW ORLEANS.

Abangarez	U.F.C.	Tuesday	Jan. 18
Atenas	U.F.C.	Tuesday	Jan. 25
Cartago	U.F.C.	Tuesday	Feb. 1
Abangarez	U.F.C.	Tuesday	Feb. 8

COLON TO BARBADOS, CALLING AT TRINIDAD.

Thames	R.-M.	Tuesday	Jan. 18

A ship of the United Fruit Company's line sails from the dock at Colon, at 3 p. m., Tuesday of each week.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Cuban* for New Orleans, via Kingston, Ja., on or about February 7.

LOST—Between Empire baseball park and Las Cascadas, Canal Medal No. 1392-a, 1906-8, J. H. Murray. A liberal reward will be paid on return to Mr, Murray, house No. 26, Las Cascadas.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, JANUARY 19, 1910. No. 21.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

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Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Slides in Culebra Cut.

The slide at Culebra, the largest in the Cut, is well under control and little difficulty is expected from it during the dry season. The six steam shovels that were at work on it have been reduced in number until one is sufficient to take out the moving material, as it advances into the Cut, and keep it from blocking the tracks. During the rains of December a number of crater-like holes formed in the slide at Cucaracha and the water that stood in them kept the mass of earth constantly wet. These holes have been drained and the slide is well under control, two steam shovels being adequate to remove the material as it advances.

It is believed that the greatest inconvenience experienced with the slides is now over, the new banks opened during the past year on account of the widening of the channel between Las Cascadas and Paraiso, having set several in motion and given new impetus to others, as the material at the toes of the slopes was removed.

Increased Operations at Porto Bello.

Forty-two thousand, seven hundred and forty-seven cubic yards of crushed rock were produced at Porto Bello during the month of December, an average of 1,644 cubic yards for each of the 26 working days. The output broke all previous records at that point and was 16,913 cubic yards more than the November total. The amount actually shipped during December was 42,861 cubic yards. The largest single day's output up to and including January 15, was on Wednesday, January 12, when 2,905 cubic yards were produced in a working day of 16 hours. During the six days of the week beginning January 2, an average of 2,319 cubic yards was crushed daily.

On December 7, a working shift of 12 hours was put into effect, and on December 27, this schedule was changed to two shifts of eight hours each, from 6 a. m., to 10 p. m. The prosecution of operations on a larger scale has necessitated an increased labor force, and on one day of last week there were 803 men on the Atlantic Division pay rolls at Porto Bello, 132 men on the gold roll, and 671 on the silver roll. The total number of Commission employes at that point is now approximately 930, and all quarters are occupied. The total number of employes in August, 1909, was 696.

The increased concrete output at Gatun Locks during the past two weeks has caused a corresponding increased demand for rock, which the crushers at Porto Bello and the stone transportation service have been able to meet under the new arrangement. The transportation service is hampered to some extent from the fact that barges arriving after nightfall cannot be unloaded until morning, and are compelled to tie up at Dock No. 13. It is proposed to give night unloading a trial, however, by installing a searchlight at Gatun Docks, the order for which has been placed.

The contract for supplying the new gyratory rock crusher for Porto Bello, which will take rock just as it is handled from the steam shovels, has been let to the Allis-Chalmers Company of Milwaukee.

Following is a statement of the rock crushed at Porto Bello for each of the six days of the week ending Saturday, January 15:

	Cubic Yards.
January 10	2,022
January 11	2,602
January 12	2,905
January 13	2,241
January 14	1,827
Jauuary 15	2,184
Total	13,781

Excavation in Gatun Lake Region.

The two steam shovels at work at Tabernilla have finished their pioneer cuts and are now loading upon cars. They are working in earth that in many places is so soft as to make the excavation very difficult. The deepest cut to be made is 8 feet, and the material is adapted to dredging, but as it would have been necessary to grub the stumps out before a suction dredge could be set at work, the whole excavation is being done at one operation. All the other excavation in the Central Division, south of this point, has been let, or will be let, to contractors.

The shovels at Gorgona have completed their work on the 50-foot level, to which they were confined by the high water in the Chagres River during the rainy season, and have begun excavating on the bottom of the Canal, 40 feet above sea level. The spoil from this excavation is wasted in the river.

Recreation Room at Washington Hotel.

A room on the lower floor of the Washington Hotel at Colon has been fitted up as a place where the employes quartered in the hotel, and other patrons, can resort to read, write or rest. It has been furnished with a full complement of chairs, both rocking and straight-backed, and mats on the floor. A portion of the appropriation made annually by the Panama Railroad Company toward maintaining the reading room in the Lincoln House, will probably be used to purchase magazines, periodicals, writing materials, etc., for the hotel reading room.

Poultry Farm at Ancon Hospital.

Among the consignments received by the Isthmian Canal Commission on the United Fruit Company's steamship *Cartago*, arriving at Colon on January 6, was that of 200 hens and 15 cocks, which will be used as the nucleus of a poultry farm at Ancon Hospital. All the fowls are Brown Leghorns and reached the Isthmus in good condition. Three old French buildings on the side of Ancon Hill, below Ward 15, at one time the headquarters of the sanitary inspector for the Ancon district, but which afterwards fell into disuse, have been converted into henneries, to which a large yard adjoins. According to present plans, the hens are to be used solely for egg-laying purposes, and an incubator with a capacity of 100 eggs has been ordered from the States, which will be employed to increase the number. From 800 to 1,000 eggs are consumed daily at Ancon Hospital, and it is estimated that about 1,500 hens will be required to meet this demand.

Porto Bello Wireless Station.

The first message from the new wireless station at Porto Bello was received at the Colon station on December 31, addressed to Major B. H. Fuller, the commandant at Camp Elliott, and announced that the service had been opened by a temporary arrangement of the wires. Since that date, a large amount of business for the Isthmian Canal Commission, and especially for the Atlantic Division, has been transacted regularly through the Colon station, distant about 17 miles. The plant is completed, with the exception of the mast, which is partly erected, and the rigging of the 520-foot circle aerial. With two wires working from the highest point, it has been possible to hear the stations at Key West, Guantanamo, and Bluefields, although an interchange of communications between those points and Porto Bello has been precluded so far, on account of the incomplete aerial installation. The station is equipped with an improved type of DeForest apparatus, including a duplicate set of tuners, which not only furnishes an instrument in reserve, but also permits the transmission of messages from both instruments at the same time, providing the radius in which one operator is working, is outside the radius of the other. Electrical power is supplied by the Commission plant at Porto Bello, and the station ground is secured by means of 16

NOTES OF PROGRESS.

(Continued.)

copper plates, each 3 by 6 feet in size, sunk in the bed of the Porto Bello reservoir near by. The plant is in charge of Chief Electrician W. R. McDonald, U. S. Navy, who was detailed for service at Porto Bello from the flagship *Connecticut* of the Atlantic fleet, and is served by three operators. All four men are quartered in the building. The wireless service has already proved of great convenience in the transaction of business in connection with the quarry and rock crusher operations.

Steam Shovel Repair Parts.

The standard design of all spare and repair parts for steam shovels in use on the Canal and Panama railroad work, excepting those for the special rock dipper in use at the Porto Bello quarries, and the Thew shovel excavating in Pedro Miguel Locks, will be determined hereafter by the superintendent of steam shovel repairs of the Central Division. All requisitions for spare and repair parts to be purchased in the United States, excepting those for the two shovels mentioned, will be made by the Quartermaster's Department on the advice of the superintendent of steam shovel repairs, and local requisitions will be made on the Quartermaster's Department.

Canal Medal and Service Bar.

The list of Panama railroad employes entitled to the Canal Medal or a Service Bar, which was published in THE CANAL RECORD for January 12, did not include employes of the Commissary Department or employes engaged in the construction of the relocated line. The medal and bar list for these departments of the Panama railroad will be published in an early issue of THE CANAL RECORD.

Crane Erection at Pedro Miguel.

The work of erecting the first of the four chamber cranes for the permanent handling plant at the Pedro Miguel Locks was practically completed last week, but before it is ready for use, operating motors will have to be installed and electrical connections made, which will take additional time.

The erection of the chamber cranes which will handle material in the lock pit, and of the two berm cranes, which will be operated in connection with the mixing plant in the north forebay, is being accomplished by the Pacific Division forces, under the supervision of a representative from the Wellman-Seaver-Morgan Company, the builders. Work on chamber crane No. 1 was begun shortly after October 5. It was found difficult to secure the requisite number of men accustomed to work of this kind from the Commission forces on the Isthmus, especially as no scaffolding is used, and a number of experienced workmen were, therefore, brought from the States.

When completed, crane No. 1 will be moved south of its present position in the north end of the west chamber, and crane No. 2 will be erected on the same spot, thereby obviating the necessity of shifting the wooden false work. When this crane is finished, the false work will have be transferred to the east lock chamber for the erection of the two cranes in that section. The erection of berm crane No. 1 in the forebay is proceeding steadily.

All of the crane material is either now on the ground, or in transit.

Improving the French Canal.

The work of deepening the French canal to facilitate the operation of the sand and stone transportation service between Dock No. 13, and the Gatun Docks, will be practically completed this week. The channel has been dredged to a ruling depth of 15 feet, for a width of 90 feet at the bottom, which will permit of its use by all of the tugs of the Atlantic fleet, with the exception of the *M. E. Scully*, *Empire* and *Porto Bello*. While the water is sufficiently deep for these tugs to navigate to Gatun, it is not deep enough to allow them to successfully maneuver with their tows. Later, if found necessary, an additional cut may be made down the center of the channel, which will open the canal to all the tugs. Suction dredge *No. 83*, which has been engaged in moving silt from the canal at the approach to Gatun Docks since December 16, was transferred to a point near the Spillway Dock on January 15.

Towing Machines on Barges.

Seven of the barges of the Atlantic Division sand and stone transportation fleet have recently been equipped with towing machines. The barges thus provided are placed last in line when a tug has two tows. The towing machine on the tug relieves the strain on it caused by the pitching and veering of the first barge during rough weather at sea, while the strain on the latter is in turn minimized by the machine on the second barge. The Atlantic Division barge fleet now consists of ten barges for the stone service, four for the sand service, and one scow for carrying coal. In all, there are about 75 tugs, barges and vessels of all descriptions in the Atlantic Division fleet.

Applications for Married Quarters.

Applications for married quarters were on file January 1, as follows:

	No. 1 List.	No. 2 List.
Balboa	3	54
Ancon	10	10
Corozal	1	7
Pedro Miguel	7 (7)	6 (6)
Paraiso	1	25
Culebra	....	....
Empire	....	....
Las Cascadas	3 (1)	11
Bas Obispo	....	9 (2)
Gorgona	16 (8)	65
Tabernilla-San Pablo	....	5
Gatun	47 (13)	88
Cristobal	....	116
Porto Bello	....	6
Total	88 (29)	402 (8)
December 1	86 (36)	413 (5)

NOTE: The figures in parentheses indicate employes who are occupying quarters at other points, and whose applications are on file for transfer.

On December 13, the Chairman authorized the construction at Gatun of six type-14 four family houses, and one type-18 bachelor house. With the completion of these buildings, it is expected that the congestion now existing in quarters at Gatun will be entirely relieved.

The Uniformed Rank, Knights of Pythias, held a dance at Las Cascadas lodge hall on the night of January 4.

LABOR FORCE AND QUARTERS IN DECEMBER.

The force actually at work for the Commission on December 22, was 28,324, and for the Panama Railroad Company, Panama Railroad Commissary, and on the Panama railroad relocation, 7,111—a total of 35,435, constituting the largest force employed up to January 1, 1910. The following table shows that in the Commission force there has been a considerable proportionate decrease in the number of gold employes:

	Gold Men.	Total Force.	Per cent gold men.
December, 1906	3,881	19,485	19.8
December, 1907	4,668	23,763	19.6
December, 1908	4,275	24,417	17.5
December, 1909	4,386	28,324	15.4

The report of the Chief Quartermaster for the month of December shows that of the 33,945 employes on the rolls of the Commission and Panama railroad on December 29, 22,905 were laborers for the Commission, 4,339 were on the "gold" roll of the Commission, and the remainder comprised the "gold" and "silver" forces of the Panama railroad.

The number of family quarters occupied by "gold" employes was 1,648, and the occupants numbered 5,040; bachelor quarters by "gold" employes, 1,976, and the occupants numbered 3,619, of whom 134 were women. The family quarters occupied by West Indians numbered 1,012, and the occupants 3,312; bachelor quarters, 277, number of occupants, 5,155. The family quarters occupied by European laborers numbered 300, and the occupants 883; bachelor quarters 124, and the number of occupants, 4,800.

The force actually at work on December 29, was as follows:

DEPARTMENT.		Artisans.					European Laborers.		West Indian Laborers.							
	Monthly.	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 cents.	Total Silver.	Total Gold.	Grand Total.
Const'ct'n and Eng'r'ng	3,122	20	46	312	722	2,169	3,099	1,070	98	837	3,061	3,745	278	18,579	3,227	21,806
Civil Administration	154	..	..	1	3	17	......	......	..	....	......	1	....	176	323	496
Sanitation	619	..	..	4	3	7	......	......	..	1	3	237	8	882	365	1,247
Quartermaster's	989	5	2	48	163	197	299	43	..	40	6	832	12	2,636	229	2,865
Subsistence	614	..	..	1	2	......	......	......	..	....	......	......	....	617	63	680
Disbursements	8	..	..	....	....	......	......	......	..	....	......	......	....	8	27	35
Examinat'n of Accounts	7	..	..	....	.. .	......	......	......	..	....	......	......	....	7	105	112
Totals	5,513	25	48	366	893	2,390	3,398	1,113	98	878	3,070	4,815	298	22,905	4,339	27,244

Panama railroad force, 3,562; Panama railroad relocation force, 2,273; Panama railroad commissary force, 866. Total, 6,701.

TELEPHONE IMPROVEMENTS.

Construction and Maintenance Forces Reorganized—New Installations.

A reorganization has been effected in the construction and maintenance forces of the telegraph and telephone department of the Panama Railroad Company, which, coupled with various changes in the present system and the installation of additional facilities will, it is expected, bring about a material improvement in the service. A construction division has been created and, hereafter, all new work will be under its charge, while the responsibility of keeping the maintenance of plant and equipment up to standard will be vested in the managers, who will report directly to the superintendent. The three districts of the telegraph and telephone department correspond closely to the limits of the three engineering divisions. The headquarters of the Atlantic district will be at Cristobal as soon as the new exchange at that point is ready; the headquarters of the Central district will be at Culebra, and that of the Pacific district, at Ancon, as heretofore. The wire chief, whose headquarters are at Culebra, will also report directly to the superintendent.

Plans for the improvement of the service call for a considerable amount of reconstruction and new installation. All of the iron wires, which, on account of their age, are constantly breaking and crossing the lines, will be replaced by copper wires. Within the past year approximately 1,000 miles of new copper wire have been strung, but there still remain some 25 miles to be replaced, principally between Panama and Culebra; Matachin and Buena Vista, and Bohio and Gatun.

At the Colon and Cristobal end, the entire layout will be changed, more or less. On Sunday, January 23, the exchange now located in the office building of the Panama Railroad Company at Colon, will be abandoned, and a new exchange, located at Cristobal, placed in service. Two new sections of No. 9-D Western Electric switchboard will be installed there, which, with the present section, will give a 3-section multiple board, with a capacity of 300 subscribers. One of the new sections has been received, and as soon as the lines are cut over, will be placed in service, while the old board is being rewired and connected up. A number of new cables ranging in size from 150 to 20-pair, will be strung in Colon and Cristobal. The 150-pair cable will constitute the main lead from the Cristobal exchange to Colon. The system at this point will be further standardized by the replacing of all the old magneto instruments, now in use, with common battery.

The increased business between Gatun and Cristobal has necessitated additional facilities, which will be provided by the placing of another 6-pin arm on the existing pole line. When this work is completed, there will be seven telephone circuits operating between the two places.

It is proposed to consolidate the Empire exchange with that at Culebra, which will give a 4-section switchboard at the latter place. The change will result in a centralization of administration at that point, thereby effecting an economy, and at the same time it will do away with the relaying of calls between the two boards. At the Ancon end, a new cable will be strung to take the place of the present one extending from the exchange to the old administration building in Panama.

A new telephone directory has been compiled, and is nearly ready for the printer. It will contain about 1,300 names, and will be so arranged that the number desired can be found not only under the subscriber's name, but under his official position, as well. This will be the first complete directory issued by the department.

Improved Service to Chiriqui.

The Pacific Steam Navigation Company has terminated its sailings between Panama and Pedregal, the port of David, in Chiriqui, and its steamship, the *Taboga*, formerly plying between the two places has been sold to the National Navigation Company of Panama. The vessel was rechristened the *Panama* on Thursday, January 7, in the presence of the new owners, and public officials of the Republic of Panama, and is now on the ways at Pinel Brothers' shipyard at Peña Prieta for a general overhauling. It will be placed in the Chiriqui trade again during the month of February, and meanwhile the *David*, another vessel of the National Navigation Company's fleet, is continuing the sailings to Pedregal, but on a greatly shortened schedule. Heretofore, from 12 to 15 days have been consumed in making the round trip, but under the revised schedule, in effect during the month of January, the time will be reduced to one week. The reduction in time will operate to the advantage of Canal employes intending to spend their vacations at Boquete.

Obituary.

Fred. A. Bork, a native of New York and an employe of the Mechanical Division at Gorgona, died at Ancon Hospital on January 10, after an illness of two weeks. He was 29 years of age, unmarried, and had lived on the Isthmus two years and nine months.

John E. Brown, a trainman, employed at Ancon quarry, was killed while at his work on January 12, due to the failure of the air brakes on his train. He was born at Cold Springs, Ky., in 1884, and had lived on the Isthmus seven months, residing with his father, J. M. Brown of Ancon.

Sergeant Walter W. Kitchen of the United States Marine Corps at Camp Elliott was run over and killed at Las Cascadas, by a freight locomotive on the Panama railroad, about 8.20 p. m., Friday, January 14. Kitchen was a native of Coshocton, Ohio, was 30 years of age, and had been on the Isthmus only twenty days. His second term of enlistment expired on the day of his death.

Paraiso Court, I. O. P. K.

At a regular meeting of Paraiso Court No. 5, Independent Order of Panamanian Kangaroos, held on January 15, 1910, the following elective officers of the court were installed to serve during the first term of 1910: Honorable judge, H. L. Bridges; prosecuting attorney, A. H. Bearup; defendant attorney, Alma White; chaplain, William Downs; comptroller, W. B. McCombs; clerk, George W. A. Palmer; sheriff, R. B. Leftwich.

W. B. McCombs,
Comptroller, Paraiso, C. Z.

Knights of Pythias.

Paradise Lodge No. 6, Knights of Pythias, will give their annual dance Saturday evening, January 22, at the Paraiso lodge hall. All Knights of Pythias are invited. Invitations will be issued to the public. A special train will be run from Corozal and Pedro Miguel.

Knights of Columbus.

A party of Knights of Columbus from the United States, headed by the Supreme Knight, James A. Flaherty, will arrive on the Isthmus on Thursday, January 20, and will remain as guests of Panama Council 1371, Knights of Columbus, until Tuesday, January 25. The following program has been arranged for the entertainment of the visitors:

Thursday, January 20—Arrival in Colon and sightseeing. Leave Colon on train No. 7 for Panama. Headquarters at the Hotel Tivoli. 8 p. m., meeting of council officers and degree team in Ancon hall.

Friday, January 21—Sightseeing in Panama. 7.30 p. m., exemplification of the first and second degrees in Ancon hall, followed by a smoker. After the smoker a special train will leave Panama.

Saturday, January 22—8 a. m., special sightseeing train through Canal. 9 p. m., reception to the Bishop of Panama and Supreme Knight James A. Flaherty, at Ancon hall. Installation of officers.

Sunday, January 23—10 a. m., solemn high mass at the Cathedral. All Catholics and non-Catholics on the Isthmus are cordially invited to attend the mass. 12, lunch, at the University Club. 1 p. m., exemplification of the major degree at the National Theater. 9 p. m., banquet at the Hotel Tivoli. After the banquet a special train will leave Panama.

Monday, January 24—6 p. m., special train will leave Colon for Panama. 8.30 p. m., degree ball at the Hotel Tivoli. Special train will leave Panama after the ball.

Tuesday, January 25—Departure of the tourists.

SUBSISTENCE OPERATIONS FOR SIX MONTHS.

The cost of running the messes for "gold," European, and negro employes during the six months ending December 31, 1909, was over $700,000, and the receipts and expenditures practically balanced. A statement giving the receipts and expenditures by months for each class of mess follows:

MONTH.	EUROPEAN MESSES.		WEST INDIAN KITCHENS.		HOTELS. (Including the Tivoli.)		TOTAL.	
	Receipts.	Expenses.	Receipts.	Expenses.	Receipts.	Expenses.	Receipts.	Expenses.
July	$32,361.00	$30,544.75	$26,868.50	$24,657.31	$65,312.69	$67,004.27	$124,542.19	$122,206.33
August	32,050.47	30,319.92	23,841.25	22,363.29	61,127.11	66,512.39	117,018.83	119,195.60
September...	31,274.95	28,949.18	28,897.65	25,266.32	59,309.12	62,778.27	119,481.72	116,993.77
October	33,802.48	32,185.34	22,807.55	20,861.44	62,505.75	67,847.64	119,115.78	120,894.42
November...	32,063.60	31,277.88	18,635.55	17,724.77	64,746.60	68,586.12	115,445.75	117,588.77
December....	35,942.63	34,537.70	18,013.65	17,074.29	66,561.20	70,579.00	120,517.48	122,190.99
Total	$197,495.13	$187,814.77	$139,064.15	$127,947.42	$379,562.47	$403,307.69	$716,121.75	$719,069.88

The rations at the messes for European laborers have been increased, among the additions being wine three times a week, instead of twice a week. There was an increase in the number of men eating at these messes in December of over three hundred, the total at the close of the month being 3,375 men, out of a possible 4,800, which is the number of European laborers in Commission bachelor quarters.

DREDGING IN DECEMBER.

Work at Atlantic and Pacific Entrances and on Gatun Dam.

The total output of the dredges of the Atlantic and Pacific Divisions for December amounted to 1,554,428 cubic yards, as compared with 1,456,730 cubic yards for November, an increase of 97,698 cubic yards. Of the December excavation, 1,211,581 cubic yards were removed from the Canal prism, and the remainder, 342,847 cubic yards, were taken from the French canal, the borrow pits at Gatun Dam, and other localities. The excavation in the Canal channel for December showed an increase of 125,901 cubic yards from the preceding month. In the Atlantic Division, 489,121 cubic yards were removed from the prism, and 319,147 cubic yards from outside works, principally the French canal. In the Pacific Division, 722,460 cubic yards were taken from the prism, while 23,700 cubic yards represented outside operations. The dredging output in the Atlantic Division was 6,666 cubic yards more, and in the Pacific Division, 91,032 cubic yards more, than in November.

The dredges in the harbor and channel section of the Atlantic Division removed 628,610 cubic yards, of which 608,982 cubic yards were earth, and 19,628 cubic yards were rock. In addition to taking out 368,600 cubic yards from the prism, the suction dredge *Caribbean* removed 7,760 cubic yards from the approach channel to Cristobal Harbor, and 3,880 cubic yards from in front of pier No. 11. The dipper dredge *Mindi*, in addition to excavating 7,307 cubic yards of earth from the channel proper, took out 4,550 cubic yards of earth from the approach channel, and 9,206 cubic yards of earth and 10,018 cubic yards of rock from the French canal. The dipper dredge *Chagres*, which has been stationed at Nombre de Dios for some time past, was placed at work in the French canal on December 6, after having been overhauled. It removed 25,786 cubic yards of earth, and 6,800 cubic yards of rock during the remainder of the month. Dredge *No 1* excavated 62,734 cubic yards of earth and 2,810 cubic yards of rock, while dredge *No. 5* removed 47,670 cubic yards of earth, all within the channel proper. Suction dredge *No. 83* was moved from borrow pit No. 1, at Gatun Dam, to the French Canal, on December 16, and put to work removing the silt from the bottom, near the approach to Gatun Docks, its output aggregating 71,489 cubic yards up to the end of the month. High water interfered seriously with the operations of dredges *Nos. 1* and *5*, and the dredge *Chagres*. A total of 23 days was lost by the two first mentioned dredges on this account.

The floods of December made it impossible to accurately determine the output of suction dredges *Nos 82* and *85*, working in the borrow pits at Gatun Dam. Dredge *No. 83* had pumped 25,761 cubic yards of material into the Dam up to December 16, when it was transferred to work in the French canal. A cross-section measurement indicated a total of 179,658 cubic yards, as the output of all three dredges for the month in this locality. Using this figure as a basis, the total fill in the dam at the end of December had been increased to 2,096,477 cubic yards.

The tabular statement of operations in the Atlantic Division follows:

DREDGE.	Type.	Cu. Yds.
Caribbean	Suction	380,240
Chagres	Dipper	32,586
Mindi	Dipper	31,081
No. 1	Ladder	65,544
No. 5	Ladder	47,670
No. 83	Suction	97,250
No. 82	Suction	76,948
No. 85	Suction	76,949
Total		808,268

In the Pacific Division, the suction dredge *Culebra* worked the entire month deepening the channel from Station 2170 seaward. All of its output was chargeable to "work" excavation, with the exception of 5,000 cubic yards, removed from in front of the shipways. The *Marmot* worked from the 1st to the 17th cleaning up a fill caused by the flood of November 28, and during the remainder of the month continued operations on a new cut to Station 2112. The *Badger* was engaged the entire month on the east bank of the Canal, below Station 2158. The *Cardenas* worked from the 1st to the 11th removing lumps from the bottom of the channel between Stations 2213 and 2216, and for the remainder of the month was employed in cleaning off a rock shoal previously blasted by Star drills between Stations 2193 and 2199. The *Mole* was engaged from the 1st to the 7th on a rock shoal at Station 2225, when it took the place of the *Gopher* for a few days at Point Chamé in dredging sand. The *Gopher* worked at the sand deposits the entire month, with the exception of two days, when it was laid up for repairs.

The tabular statement of operations in the Pacific Division follows:

DREDGE.	Type.	Cu. Yds.
Culebra	Suction	342,395
Marmot	Ladder	129,640
Badger	Ladder	121,000
Cardenas	Dipper	75,620
Mole	Ladder	*60,805
Gopher	Dipper	†16,700
Total		746,160

*Includes 2,000 cubic yards of sand. †All sand.

Track Shifting.

A statement of track raised and thrown by Central Division machines during the month of December, 1909 follows:

SHIFTER No.	Location.	Amount.
		Feet.
No. 5	Tabernilla	247,973
Nos. 1 and 6	San Pablo	5,815
Nos. 7 and 9	Santa Cruz relocation	75,098
No. 8	Miraflores	77,432
No. 2	Balboa	150,100
Total		*556,418

*Or 105.38 miles.

Lidgerwood Unloaders in December.

A statement of Lidgerwood cars unloaded on the Central Division dumps during the month of December follows:

LOCATION.	No. of unloaders.	No. of trains.	No. of cars.
Balboa	3	782	14,858
Miraflores	4	615	11,685
Tabernilla	4	1,096	19,728
Total	11	2,493	46,271

Average number of cars to each unloader, 4,206.

STEAM SHOVEL RECORDS.

Work Accomplished by Central Division Shovels in December.

During the month of December the total amount of material excavated in the Central Division was 1,258,533 cubic yards, of which 253,445 cubic yards were classified as earth and 1,005,088 cubic yards as rock. Of this quantity, 1,250,576 cubic yards were removed by steam shovels, 1,248 cubic yards by hand, and 6,709 cubic yards by contract.

The high record for the month was made by shovel No. 266, working 24 days in the Culebra District, which excavated 42,173 cubic yards of rock. The second best record of the month was made by shovel No. 224, working 26 days in the Culebra District, which excavated 39,996 cubic yards of rock.

The best record for a shovel in the 70-ton class was made by shovel No. 122, working in the Bas Obispo District, which excavated 26,056 cubic yards of earth in 19 working days.

Shovel No. 226 in the Culebra District, made the high record for one day by excavating 3,040 cubic yards of rock on December 1.

Shovel No. 108, working in the Bas Obispo District, excavated 1,940 cubic yards of earth on December 4, being the high record for one day for a 70-ton shovel during the month.

Monthly records are computed by place measurement, while the daily records are based on car measurement. The best records for the month and for one day in each district are shown below:

TABERNILLA DISTRICT.

Shovel No.	Cubic Yards.			No. of days at work.
	Earth.	Rock.	Total.	
132	16,611		16,611	13
125	11,467		11,467	*

BAS OBISPO DISTRICT.

Shovel No.	Earth.	Rock.	Total.	No. of days at work.
122	26,056		26,056	19
263	2,542	22,874	25,416	26

EMPIRE DISTRICT.

Shovel No.	Earth.	Rock.	Total.	No. of days at work.
218	6,518	31,826	38,344	26
210		35,482	35,482	26
205		1,872	1,872	1
208		27,027	27,027	15

CULEBRA DISTRICT.

Shovel No.	Earth.	Rock.	Total.	No. of days at work.
266		42,173	42,173	24
224		39,996	39,996	16

BEST RECORDS FOR ONE DAY.

Shovel No.	Location.	Date.	Character of material excavated.	Cubic yds. excavated.
127	Tabernilla	Dec. 18	Earth	1,250
125	Tabernilla	Dec. 4.	Earth	1,224
263	Bas Obispo	Dec. 29.	Rock	2,019
263	Bas Obispo	Dec. 23.	Rock	2,012
216	Bas Obispo	Dec. 31.	Rock	1,942
262	Empire	Dec. 2.	Rock	2,703
227	Empire	Dec. 8.	Rock	2,394
208	Empire	Dec. 8.	Rock	2,394
266	Culebra	Dec. 1.	Rock	3,040
266	Culebra	Dec. 2.	Rock	2,736
205	Culebra	Dec. 20.	Rock	2,603

*Casting below grade.

Missing Men.

Information has been requested concerning an engineer employed on the Canal, or Panama railroad, during 1906 and 1907, who had formerly been employed on the Canton to Hankow railroad in China. Letters should be addressed to the Assistant to the Chairman, Culebra.

GATUN LOCKS.

Increased Output of the Concrete Mixing Plants—Status of the Work.

The record of concrete laid in Gatun Locks during the week ending January 15, shows that a daily average of 2,080 cubic yards was made during the week. All records for one day's work in previous weeks were surpassed on four days, and the greatest amount of concrete mixed and placed by the locks mixing and handling plant in one day, was that of January 15, when 1,980 cubic yards were laid by this plant. The record by days follows:

	Cubic Yards.
January 10	1,614
January 11	1,958
January 12	2,088
January 13	2,115
January 14	2,395
January 15	2,310
Total	12,480

The record of concrete laid in the locks by months, is as follows:

	Amount—Cu. yds.	Average per day—Cu. yds.
August (seven days)	1,298	185
September (26 days)	12,294	473
October (31 days)	29,378	948
November (24 days)	30,270	1,261
December (26 days)	42,832	1,647
January 1 to 8 (6 days)	11,065	1,844
January 10 to 15 (6 days)	12,480	2,080
Total	139.717	1,109

There were also laid in the spillway of Gatun Dam during the week ending January 15th, 844 cubic yards of concrete.

The construction of Gatun Locks had advanced to the point where 139,717 cubic yards of concrete had been laid up to the close of work on January 15. This amount represents part of the floor laid in the upper half of the east intermediate lock, almost all of the floor completed in the upper half of the upper locks, the sill of the emergency dam in process of construction, and a large part of the floor of the forebay south of the dam already laid.

The mixing plant at the south end of the locks was set in operation on December 27 and the concrete laying in the forebay south of the emergency dam was begun at that time. The plant consists of two two-yard cube mixers with a normal capacity of 640 cubic yards of concrete in eight hours. The concrete is hauled into the forebay by narrow gage trains which dump it into place. As soon as two locomotive cranes on order arrive, they will be used to place the concrete, which will then be delivered in buckets of two yards capacity. Until then the forebay plant cannot be worked to its capacity. Three steam shovels are finishing the excavation in the forebay, baring the rock on which the concrete is laid. A wall is being constructed across the south end of the forebay with top at elevation 22 feet above sea level, which will retain the fill south of the forebay.

Three of the monoliths for the sill of the emergency dam have been constructed, the surface being at elevation 37⅓ feet. When the other monoliths for the sill are laid, a tunnel will be formed for the passage of the narrow gage cars running between the forebay mixers and the lock chamber. When no longer needed this tunnel will be filled with concrete, making the sill of the dam solid. Part of the construction of the sill is the placing of the castings that will serve as guides, pockets, and seats for the wicket girders of the emergency dam. As there is only half an inch for play between the girders, and the guides or pockets, the castings must be set with great accuracy.

A wooden form is in process of construction for the lift wall at the south end of the upper lock. When the concrete is laid a tunnel will be left in this wall for the narrow gage equipment and later this tunnel in turn will be filled.

The construction of the first of the wall monoliths was begun on January 11. The face of the form in which it is being built is sheet steel, 78 feet high and 36 feet wide, held in place by a steel tower which moves up and down the lock site on tracks laid on the floor. The sides and back are composed of sheet steel reinforced with girders, both sides and back being built up as the monolith grows in height. Each of these wall monoliths will be 50 feet thick at the bottom and will step up to 8 feet at the top, which will be at 92 feet above sea level and 78⅓ feet above the floor of the locks. Two other of the face forms are ready for use. Two derricks will be erected on each of the form towers, by which the side plates can be shifted.

An order has been placed at Gorgona foundry for six 90-degree elliptical elbow collapsible steel forms for the connections between the lateral culverts under the floors and the main culverts in the center wall. At the end where connection is made with the lateral culverts the forms will be elliptical in shape, the diameters being 8 feet and 6½ feet; and at the end where connection is made with the balance valves of the main culverts in the wall, they will be circular. Wooden forms have been tried for these elbows, but it is now believed that the steel forms will be more economical, as each of the 79 connections in the locks would require a separate wooden form.

Thirty sections of the collapsible steel forms built in the States for the lateral culverts in the locks are being so modified at Gorgona shops, as to enable the construction of a section of the culverts with one setting of the form, instead of with two.

Concrete Work at Pedro Miguel.

A total of 4,334 cubic yards of concrete was placed in the Pedro Miguel Locks during the week ending Saturday, January 15, which exceeds the best previous weekly record at that point—January 2–8—by 11¼ cubic yards.

The record for each of the six 8-hour working days of the week ending January 15, follows:

	Cubic Yards.
January 10	751½
January 11	609½
January 12	799½
January 13	671½
January 14	665½
January 15	836½
Total	4.334
Daily average	722

The amount of concrete laid in the Pedro Miguel Locks from the beginning of work on September 1, 1909, to January 15, 1910, inclusive, is shown below:

	Cubic Yards.
September	2,369½
October	8,396¼
November	10.080½
December	13.148½
January 1 to 8 inclusive	4,322¾
January 10 to 15, inclusive	4,334
Total	42,651½

CHURCH WORK.

Meetings of the Isthmian Sunday School Association—Church Activities.

The general meeting of the Isthmian Sunday School Association was held in the Commission chapel, Empire, on Sunday, January 16. The federated Sunday schools were represented by 250 members, officers, teachers, and pupils. The guests of the day were Rev. Aquila Lucas, secretary of the International Sunday School Association, Rev. Otto Bamber, I. E. Reynolds, and J. S. Parrott, representing the Ohio branch of the International Association. The convention was opened by a song service led by Mr. Reynolds. At 2.30 p. m., the business meeting was called to order by the president, S. H. Harrison. Addresses were made by J. F. Warner of Culebra, on Bible class work, Miss Cora Thomas of Cristobal, on primary work, and Rev. Mr. Bamber on junior work. Topics of the round table discussion, conducted by Mr. Lucas, included lesson helps; graded Sunday schools on the Zone; the community and the young people; the influence and status in the community of the Sunday school teacher; punctuality and the best means of emphasizing it; the Sunday school in relation to the community, and teacher training. This last topic is one in which the officers have been actively interested during the last year. The work is already organized under the direction of Mr. Warner of Culebra.

The association has under consideration the observance of an annual "field day" in the Sunday schools. It is probable that Washington's Birthday will be chosen as the date, if suitable arrangements can be made. During the afternoon songs were sung by Mrs. Ludwig and Miss Harrison, and class songs by the schools. The Isthmian Sunday School Association was organized in 1908, and there have been three general meetings, the last having been held at Gatun, in May, 1909. The Sunday school at Taberuilla has recently been reorganized, and a new school has been formed at Balboa.

The first quarterly meeting of the Isthmian Sunday School Association for the current year was held in Gorgona chapel, Sunday, January 9. Officers and delegates representing ten schools were present, as follows: S. H. Harrison, president, Corozal; J. C. Forman, vice-president, Empire; L. C. Vannah, secretary, Corozal; H. A. McConaughey, treasurer, Gorgona; Mrs. J. Leon Webster, Ancon; F. E. Moore, Corozal; A. H. Shrimpton, Miss Gertrude Bliss, Pedro Miguel; T. L. Kent, Paraiso; Mrs. J. F. Warner, Mrs. Geo. Turner, Culebra; J. R. Goldbrecht, Empire; Judge J. B. March, Gorgona; J. M. Weaver, Miss Cora Thomas, Cristobal; Mrs. Van Hardeveld, Mrs. McNamara, Bas Obispo; O. L. Brownell, Mr. Windes, Gatun. Rev. A. Lucas, International Secretary, and Sunday school workers from Pedro Miguel, Culebra and Gorgona were entertained as visitors. Officers chosen for the current year are as follows: S. H. Harrison, president; J. C. Forman, vice-president; L. C. Vannah, secretary; Judge J. B. March, treasurer.

The patronesses of the vaudeville entertainment to be held at the National Theater, Panama, on Saturday evening, January 29, in aid of the Church of the Holy Redeemer, Culebra, are: Madame de Obaldia, Mrs. George W. Goethals, Mrs. W. C. Gorgas, Mrs. William L. Sibert, Mrs. D. D. Gaillard, Mrs. H. H. Rousseau, Mrs. C. A. Devol, Mrs. Joseph Bucklin Bishop, Mrs. Lorin C. Collins and Madame Pezet. President Obaldia has given the use of the theater and offered the services of the national band. Through the courtesy of the Chairman of the Isthmian Canal Commission, a special train will run from Colon to Panama and return. Ticket holders will be entitled to transportation on this train.

The Cristobal Union Church has completed the first year of its organization. The annual meeting was held after the service on Sunday evening, January 2. The following officers were elected for the ensuing year: Thomas E. Brown, jr., president; H L. Stuntz, vice-president; O. B. Riddle, secretary and treasurer; J. A. Smith, C. Nixon, C. C. Pierce, and L. Larson, committee. These seven officers with the minister, constitute the executive council to conduct the affairs of the church. The congregation represents five denominations—Baptist, Congregational, Lutheran, Methodist, and Presbyterian. The membership is 129. Included in the philanthropic work for the year just finished, were Christmas entertainments for the bootblacks in Colon, and the prisoners in the Cristobal and Colon jails. The Sunday school is large and flourishing. A ladies' aid society is active in connection with the church.

The Rev. Otto Bamber and Mr. I. E. Reynolds, representing the home mission board of the Southern Baptist Conference, are holding a series of evangelistic meetings along the Canal Zone and in Panama. The first series was opened in the Commission chapel at Empire on the night of January 16, and the meetings will be continued there every evening for two weeks. A similar series of meetings will be held at other large villages along the line of the Canal, during the next two months.

An entertainment in aid of the organ fund for St. Luke's church, Ancon, will be held in Ancon hall on the evening of January 26. There will be a program of music and tableaus, followed by informal dancing. Tickets are being sold at fifty cents, gold. Information may be had from members of the choir or the congregation.

The Rev. J. A. R. Swaby, Archdeacon of British Honduras, arrived at Colon from England on January 8, on his return to his post after eight months leave of absence. He preached at Christ Church, Colon, on Sunday morning, January 9, and at St. Paul's, Panama, on the evening of the same day. He left for Port Limon, where he resides, on Tuesday, January 11.

Bishop Frank M. Bristol delivered a lecture at the Methodist Church, Panama, on Tuesday evening, January 4. Following the lecture, an informal reception was tendered to Bishop and Mrs. Bristol by the members of the congregation. Refreshments were served by the ladies. About 100 people were present. On Thursday afternoon, January 6, the Ladies' Foreign Missionary Society held a meeting in the church, Mrs. Bristol being the guest of honor and speaker. Her address was on the work of the Foreign Missionary Society of the Methodist Episcopal Church in South America and Peru. An informal discussion followed the address. Mrs. J. Leon Webster, chairman of the meeting, announced the organization of a ladies' aid society in connection with the church. This society, which is the outcome of meetings held weekly in preparation for the Christmas celebration, will meet by invitation on the third Thursday in each month at the homes of members. The purpose is to forward the development of social life in the church. Mrs. A. H. Stewart is the head of the society. The next meeting will be held at the home of Mrs. Kiser, Ancon, on Thursday afternoon, January 20. Following the meeting of the missionary society, on January 6, an informal reception was tendered Mrs. Bristol in the parsonage, refreshments being served. About fifty ladies attended. Bishop Bristol has placed a stained glass window in the Methodist church, in Panama, in memory of his only daughter.

The Union Sunday school at Las Cascadas was reorganized on January 2, the following officers being elected: Samuel H. Bryan, superintendent; Mrs. J. E. Albrecht, assistant superintendent; F. W. Leydecker, secretary and treasurer. Efforts will be made to have the sessions attractive and the lessons consistent and interesting. The attendance is increasing, and much interest is manifested by the pupils.

The Woman's Altar Guild of St Luke's Church, Ancon, will hold a cake sale and informal dance at Ancon hall early in February.

The Catholic Ladies' Club of Las Cascadas realized $165 at a bazaar held on the night of January 15. The money will be used to purchase pews for the church in that village.

Other Events.

The Isthmian Canal Rebekah Lodge, No. 1, Gorgona, has elected the following officers: Elenor Babbitt, noble grand; Annie Calvit, vice-grand; Miriam Beetham, recording secretary; Robert Varenkamp, financial secretary; Mary McCann, treasurer; Mrs. Calvit, Mrs. Hyer, and Mrs. Varenkamp, trustees. Beginning in February, the regular meetings of the order will be held on the second and fourth Friday evenings in each month, at 7.30 o'clock.

A meeting of the Gorgona Woman's Club was held at the home of Mrs. Robert Varenkamp on Thursday afternoon, January 13, under the art department. The monthly business meeting will be held at the clubhouse on January 21.

Personal.

Rear Admiral Frederic Singer, U. S. N., retired, is at Hotel Tivoli, and will spend several weeks in looking over the Canal work.

Tennis Tournament.

The lawn tennis tournament announced for the Tivoli courts in Ancon for January 1, and later postponed, will be held at the Tivoli courts on Sunday, January 23.

United Fruit Company Steamers for New York

The steamship *Almirante*, one of a fleet of new ships built for the United Fruit Company, will be in Colon this week and a reception will be given by the officers in honor of the new service that is to be instituted between Colon and New York, with calls at Colombian and West Indian ports. The *Almirante* will sail on her first trip from Colon, on Saturday, January 22, at 5 p. m., arriving at Santa Marta, Colombia, on Monday, January 24, at 6 a. m.; will leave Santa Marta on Thursday, January 27, at 5 p. m.; will arrive at Kingston, Jamaica, January 29, at 9 a. m.; will leave Kingston the same day at 2 p. m.; will arrive in New York, Thursday, February 3, at 4 p. m.

Mr. H. R. Wilford has been appointed division traffic agent in Colon and Panama, in place of Mr. P. S. McCormick, resigned.

BASEBALL.

ISTHMIAN LEAGUE.

RESULTS OF GAMES, JANUARY 16.

At Empire—Empire, 6; Gorgona, 5.
At Ancon—Ancon, 7; Marines, 2.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*P.*	*W.*	*L.*	*Pc.*
Gorgona...	8	6	2	.750	Ancon......	5	3	2	.600
Empire....	6	4	2	.667	Marines....	7	0	7	.000

SCHEDULE FOR JANUARY 23:

Marines at Ancon.
Gorgona at Empire.

Empire.	R.	H.	PO.	A.	E.	Gorgona.	R.	H.	PO.	A.	E.
Bryan, 2b.....	1	1	1	2	0	Dougherty, 2b.	1	1	1	3	1
Moore, c......	1	1	9	2	0	Magee, lf......	1	3	3	0	0
Dixon, ss.....	1	2	4	3	3	Barney, 1b....	0	0	7	1	0
Bell, 1b.......	0	0	10	0	0	C. Herring, c..	1	1	10	2	0
Christopher, p	1	1	0	2	0	Cole, ss........	1	2	0	0	1
E. Fluh'ty, lf..	0	1	0	0	0	Clements, cf..	1	1	1	0	0
Toone, 3b. ..	0	0	1	0	0	Emery, 3b	0	3	2	0	0
Herring, rf...	1	0	1	1	0	Massen, p, rf..	0	0	0	1	1
Murphy, cf...	1	0	1	0	0	Case, rf, p.....	0	0	0	0	0
Totals......	6	6	27	10	3	Total.........	5	11	24	7	3

Empire..................	1	0	0	1	0	1	3	0	x—6
Gorgona	3	0	0	0	0	0	1	1	0—5

Runs earned—Empire, 2; Gorgona, 4. Two base hits—Dixon, Magee, Dougherty, Emery. Home runs—Cole Christopher. Sacrifice hits—Bryan, Bell, Murphy. Sacrifice fly—Christopher. Stolen bases—Bryan, Moore, Fluharty, Magee, Cole (2); Emery. Bases on balls—Off Massen, 2. Struck out—By Massen, 5; by Case, 3; by Christopher, 7. Left on bases—Empire, 5; Gorgona, 6. Double plays—Christopher to Dixon to Bell; Barney to Herring. Umpire—Cooling. Time of game—1.50. Scorer—W. H. Hall.

Marines..................	1	0	1	0	0	0	0	0	0—2
Ancon....................	0	0	1	0	0	4	0	2	x—7

ATLANTIC LEAGUE.

RESULTS OF GAMES, JANUARY 16.

Commissary-Subsistence, 17; Colon, 6.
Panama Railroad, 6; Civil Administration 4.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*P.*	*W.*	*L.*	*Pc.*
Com-Sub...	2	2	0	1000	P. R. R....	2	1	1	.500
Civ. Adm..	2	1	1	.500	Colon	2	0	2	.000

SCHEDULE FOR JANUARY 23.

Civil Administration vs. Commissary-Subsistence.

C.-S.	R.	H.	PO.	A.	E.	Colon.	R.	H.	PO.	A.	E.
Smith, ss......	4	1	2	2	1	Early, cf.....	1	0	1	0	0
McCormick, lf.	1	2	0	0	0	Morton, 3b...	1	1	2	2	4
Lindberg, cf..	2	2	0	0	0	Souders, 2b...	0	2	1	0	0
Payne, 1b.....	0	1	7	0	0	Kenney, c, ss.	0	0	1	0	2
Muggleton, 2b	2	1	0	1	1	Weber, lf.....	2	2	1	1	0
Beard, rf......	3	2	2	0	0	Spreken, 1b..	0	0	8	0	1
Gilmartin, 3b.	2	0	1	1	1	Stevens, p....	1	1	0	6	0
McCusty, c....	2	2	9	0	2	Hope, rf, c....	0	2	7	0	2
Reese, p.......	0	0	0	0	0	Jordan, ss, rf..	1	0	0	0	1
Simmons, p...	1	2	0	3	0						
Total........	17	13	21	7	5	Total.......	6	8	21	9	10

Commissary-Subsistence.....	1	2	1	3	0	4	6—17
Colon.........................	1	2	1	0	0	0	2— 6

Runs earned—Colon, 1; C.-S., 3. Two base hits—Lindberg, McCusty. Home run—Lindberg. Sacrifice hit—McCormick. Stolen bases—Smith, Lindberg, Muggleton (2); Beard, Gilmartin, McCusty, Early, Weber, Stevens, Hope (3). Bases on balls—Off Stevens, 6; off Reese, 2 in two innings. Struck out—By Stevens, 6; by Reese, 3; by Simmons, 6. Hit by pitcher—McCusty, Jordan, Hope. Left on bases—C.-S., 7; Colon, 9. Umpire—Rohr. Time of game—1.50. Scorer—Rennard.

P. R. R.	R.	H.	PO.	A.	E.	Civil Admin.	R.	H.	PO.	A.	E.
Bryan, lf......	1	1	2	0	0	Farrar, cf......	0	0	0	0	0
Hoffman, ss..	2	1	1	0	0	Fechtig, lf....	0	0	2	0	0
Dockery, 2b..	0	0	1	0	1	Edwards, 1b..	0	0	4	0	1
McGinniss, cf.	0	2	2	0	0	Rex, c.........	0	0	9	2	1
Lewis, c......	2	1	8	0	1	Fleishman, ss.	2	2	0	2	0
Marshall, 3b..	0	1	2	1	0	Bath, 3b.......	0	1	5	0	1
Hillery, 1b....	0	1	4	0	0	Horsey, 2b....	1	1	1	0	0
Stratton, p....	0	1	1	4	2	Johnson, rf....	1	1	0	0	0
Heald, rf......	1	1	0	0	0	Hileary, p	0	0	0	1	0
						Russell, p.....	0	0	0	1	1
Total........	6	9	21	5	4	Total........	4	5	21	6	4

Panama railroad	0	1	2	2	0	0	1—6
Civil Administration..........	0	3	0	0	0	1	0—4

Runs earned—C. A., 1; P. R. R., 2. Two base hits—Fleishman, Marshall. Home runs—Bryan, Lewis. Sacrifice hit—Horsey. Stolen bases—Bryan, Hoffman (2); Marshall. Bases on balls—Off Stratton, 7; off Hileary, 6; off Russell, 3. Hit by pitcher—Farrar, Johnson, Dockery. Left on bases—C. A., 5; P. R. R., 10. Umpire—Rohr. Time of game—1.25. Scorer—Rennard.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

A special chess tournament has been arranged, preparatory to the interassociation chess tournament, for which arrangements are now being made. The men entered in the special tournament are: Marshall, Warner, McCarney, Hunter and Mengel.

The fancy indian clubs have arrived. Arrangements for securing a pair can be made through Mr. Kramer.

The Cristobal indoor baseball team will play at Culebra, Saturday night, January 22.

The pool and billiard tournament is about to be started, but there is still room for more entries. The newly covered tables and the practice the men have had should make this a fast tournament.

The bowling schedule has been changed. Tuesday, Thursday and Saturday nights will be reserved for ten pins, and Monday, Wednesday and Friday nights for duck pins.

EMPIRE.

The Empire indoor baseball team again met defeat on their own floor, this time at the hands of the Gorgona team, on Saturday night, January 15. The score was 27 to 25. Only six men played on the Empire team.

Twenty-seven new members have been added to the roll of the Empire association since January 1; twenty old memberships have been renewed, and twenty-two temporary tickets payable in 30 days have been issued. All of the gold employes of the I. C. C. and P. R. R. are cordially invited to come in and help make the association the center of attraction for the coming year.

The new anthropometrical apparatus has been received and Mr. Ludwig is ready to give the members an opportunity to discover their physical needs by means of this testing apparatus. After the defects are found out the member can come into the gymnasium classes and build up the defective parts.

The Bible club meets regularly every Thursday evening from 7 to 8 in the secretary's room. The discussions are on the life of Christ.

GORGONA.

The moving picture entertainment given in the clubhouse last Friday evening, by Señor Tulio Gerbando of Panama, was attended by a large audience.

The game room will again be ready for use this week, after having been closed for several days for repainting.

CRISTOBAL.

In a duck pin match between the local team and a team from Empire last Saturday night, Empire won two out of three games, the scores being as follows:

Empire.	*1st.*	*2d.*	*3d.*
Potter	95	110	100
Fishbaugh	79	78	...
Lindgren	...	...	82
Herring	90	101	90
Gorham	86	86	100
Gustavson	87	103	100
Total	437	478	472

Cristobal.	*1st.*	*2d.*	*3d.*
Fredricks	98	136	108
Strong	82	88	87
Barrett	82	82	76
Stanford	93	81	97
Bullard	92	80	75
Total	447	467	443

Mr. Fredricks' score of 136 in the second game establishes a new record for duck pins on the Isthmus.

In the local basketball league last Monday night, the "Swastikas" defeated the "Headliners" by a score of 20 to 11, and on Friday night, January 13, the "Nut-splitters" defeated the "Swastikas" by a score of 27 to 15.

The indoor baseball game Saturday night, between the local team and Culebra, resulted in a victory for Culebra, the score being 27 to 30.

The moving picture entertainment Wednesday evening, January 12, was given before a large and appreciative audience.

On Monday evening, January 17, the Cristobal Instrumental Quartet gave a pleasing concert in the game room.

A German orchestra will give a concert on January 24.

GENERAL NOTES.

There was an increase of 42 in the membership of the Canal Zone Y. M. C. As. for the month of December.

Considering that the Zone is only 8 degrees north of the equator, the interest shown in systematic gymnasium work for December was remarkable. One hundred and ninety-five different men used the gymnasiums, with a total attendance of 728. The work consists of light calisthenics, "gym" dancing, drills, and indoor games. All exercises are conducted to music.

Forty-five men were enrolled in chess clubs during December, and 77 men in camera clubs. Special attention is being given these clubs, and an interassociation chess tournament and an interassociation camera exhibit will be arranged for in the near future. Prizes will be awarded in each case.

Eighty-six men were enrolled in various tournaments during December, as compared with seven in November.

Thirteen entertainments were given last month, with a total attendance of 3,705. These were all free to members.

Four thousand, five hundred and eighty-one letters were written at the association tables, and the total attendance at the clubhouses was 47,025.

The advantages offered at the Commission clubhouses can be obtained by joining the Y. M. C. A.

Rainfall, January 1 to 15, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Division—	*Ins.*		*Ins.*
Cristobal	1.13	1	2 30
Brazos Brook	.91	1	2.37
Gatun	.97	1	2.71
Central Division—			
Bohio	.68	1	1.76
Tabernilla	.69	1	1.01
San Pablo	.38	1	.65
Gorgona	.50	2	.84
Gamboa	.30	1	.63
Empire	.16	5	.43
Camacho	63	6	1.45
Culebra	.73	5	1.00
Pacific Division—			
Rio Grande	.93	5	1.41
Pedro Miguel	.77	5	1.63
Miraflores	1.55	3	3.08
Balboa	.53	5	.85
Ancon	.80	5	1.09
Atlantic Coast—			
Porto Bello (To 5 p. m., Jan. 15)	4.74	5	11.89
Nombre de Dios (Jan. 1 to 8 inc.)	2 00	1	6.84
Upper Chagres—			
El Vigia	.28	6	.32
Alhajuela	2.27	6	2.62

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, January 15, 1910.

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft.	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Jan. 9	129.5	96.0	49.6	10.2	4.5	3.4
Monday, Jan. 10	128.7	95.5	49.3	9.7	3.6	2.8
Tuesday, Jan. 11	128.5	95.5	49.0	8.8	3.3	2.6
Wed'esday, Jan. 12	128.2	95.4	48.6	8.2	3.0	2.4
Thursday, Jan. 13	128.2	95.2	48.8	7.8	2.6	2.2
Friday, Jan. 14	127.8	95.0	48.8	7.5	2.5	2.2
Saturday, Jan. 15	127.8	94.9	48.7	7.2	2.3	2.1

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending January 26, 1910 (75th meridian time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	A. M.	P. M.	P. M.
January 20	....	4.54	10.48	5.08	11.19
			P. M.		
January 21	....	5.52	12.02	6.20	....
January 22	12.28	6.58	1.17	7.27	....
January 23	1.37	8.00	2.23	8.30	....
January 24	2.37	8.57	3.19	9.25	....
January 25	3.32	9.47	4.07	10.15	....
January 26	4.20	10.34	4.50	11.00	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Proposals for Type-18 House and Barrack at Porto Bello.

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., February 1, 1910, and then opened, for the erection by contract of a type-18 house, and a standard laborers barrack No. 2, at Porto Bello. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal, and $200 when the contract is signed.

C. A. DEVOL, *Chief Quartermaster.*

OFFICIAL CIRCULARS.

Settlement for Private Property Used in Construction of Canal.

CULEBRA, C. Z., January 7, 1910.

CIRCULAR No. 301:

In making settlement for buildings, crops, etc., belonging to private individuals, which it will be necessary to destroy for construction purposes, particularly in the area to be flooded by Gatun Lake, the following general policy will govern in all cases:

1. No new leases will be made hereafter either by the Isthmian Canal Commission or by the Panama Railroad Company within the area to be covered by the waters of Gatun Lake.

2. All leases now existing within this area, issued either by the Isthmian Canal Commission or by the Panama Railroad Company, will be cancelled at least one year before the waters of Gatun Lake reach the property in question, but the tenants will be allowed, after cancellation of their leases, to harvest all crops and use the land, without the payment of rent, up to the time the waters of Gatun Lake reach the property in question, and no further compensation will be allowed to such tenants.

3. No permits will hereafter be granted for the erection of buildings or additions to buildings within the area to be flooded by Gatun Lake, and permits for repairs will be confined to such repairs as are necessary to render the houses habitable until the site is covered by the waters of Gatun Lake.

4. The Police Department and the district tax collectors will report promptly all structures in course of erection within the area to be covered by the waters of Gatun Lake.

5. Where it is necessary in the course of construction work to destroy buildings or growing crops, they will be purchased and the owner paid the actual value thereof at the time of purchase.

6. Should there be any buildings or crops located within the area to be covered by the waters of Gatun Lake and outside of the Canal channel upon lands belonging to private parties, the owners will be paid the actual value of such buildings or crops at the time the water reaches the property.

7. The general policy outlined above, governing settlements in the various cases described, does not apply to cases where any agreement has heretofore been made with land owners for the removal of their tenants.

8. Settlements for property other than that in the area to be covered by the waters of Gatun Lake will be made in the same general manner outlined above.

9. The procedure to be followed in making settlements, as directed in circular No. 193, will be followed as in the past.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission,
President, Panama Railroad Company.

Entry of Goods Free of Duty.

CULEBRA, C. Z., January 10, 1910.

CIRCULAR No. 186-c:

Approved requests for entry free of duty of employes' shipments (Form No. 164 C. E.) coming to the Isthmus via other than the Panama Railroad Steamship Line, or by express, will be returned by the Department of Civil Administration to the employes originally submitting the requests. In order to secure release of the shipment the employe must present the approved request to the agent of the steamship line or express company. If the shipment is destined for any station on the Panama railroad beyond the port of entry (either Panama or Colon) the consignee must arrange for its forwarding. Employes may obtain the reduced freight rate over the Panama railroad by application to the Chairman's office.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Twenty-four Trip Tickets.

CULEBRA, C. Z., January 13, 1910.

HEADS OF DEPARTMENTS AND DIVISIONS:

Referring to circular letter of December 28, 1909, from this office, please note the following additional instructions relative to the issuance of twenty-four trip tickets:

In the case of a transfer necessitating the surrender of a ticket previously issued, and the issuance of a new ticket, it should be noted whether transportation for the current month has been used, and if so, same should be detached from the new ticket and destroyed.

In cases of reemployment on the Isthmus of persons whose services were terminated during the current month, new tickets should not be issued until the first of the following month.

When new tickets are issued all coupons for preceding months should be detached and destroyed.

By direction of the Chairman:

M. B. DEPUTRON, *Assistant to the Chairman.*

Acting Veterinarian.

CULEBRA, C. Z., January 12, 1910.

TO ALL CONCERNED:

Effective this date, and until further notice, Dr. John R. Brown, stationed at Cristobal, will act as veterinarian.

C. A. DEVOL,
Chief Quartermaster.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning January 20:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	27
Chops	per lb	29
Cutlets	per lb	29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	20
Beef—Suet	per lb	4
Soup	per lb	6
Stew	per lb	10
Corned	per lb., 12, 14,	16
Chuck roast	per lb	14
Pot roast	per lb	16
Rib-roast, second cut (not under 3½ pounds)	per lb	19
Rib-roast, first cut (not under 3 pounds)	per lb	21
Sirloin roast	per lb	22
Rump roast	per lb	22
Porterhouse roast	per lb	22
Steak, Chuck	per lb	15
Round	per lb	16
Rib	per lb	21
Sirloin	per lb	22
Porterhouse	per lb	22
Rump	per lb	22
Tenderloin	per lb	24

MISCELLANEOUS.

Livers—Beef	per lb	8
Calf	each	65
Half	each	35
Sausage—Pork	per lb	14
Bologna	per lb	14
Frankfurter	per lb	14
Leberwurst	per lb	14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	25
Oysters, in 1-quart kegs	keg	55
Oysters, in ½-gallon kegs	keg	90
Eggs, fresh	dozen	†42

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, fatted, large	each	1.50
medium	each	1.30
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese	each	2.70
Rabbits, skinned	each	40

CURED AND PICKLED MEATS.

Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Sugar cured	per lb	20
Sugar-cured, sliced	per lb	§25
Half, for boiling	per lb	§21
Boiled	per lb	28
Hocks	per lb	‡8
Bacon—Breakfast, whole piece	per lb	25
Breakfast, sliced	per lb	27
Beef, salt, family	per lb	10
Pork, salt, family	per lb	15
Ox tongues	each	1.00
Pigs' feet	per lb	8
tongues	per lb	16
Mutton, mess	per lb	7½

DAIRY PRODUCTS.

Butter—Prints, prime quality	per lb	45
Cheese—Roquefort	per lb	45
Cheese—Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	28
Edam	each	1.05
Camembert	per lb	28
Neufchatel	each	6
Gouda	per lb	34
Parmesan	bottle	20
French cheese in tins—Camembert, Brie, Neufchatel	1-lb tin	20
Milk, Briarcliff	bottle	**25
Butter	bottle	**15

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	†10
Lettuce	per hd 8, 11,	14
Cucumbers	per lb	18
Potatoes, white	per lb	3
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	3
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	4
Cabbage	per lb	3
Lemons	dozen	24
Cranberries	per lb	10
Apples	per lb	5
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4
Pineapples	each	18

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Misdirected Letters.

Division of Posts, Customs and Revenues,
Ancon, C. Z., January 12, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Bunnette, Mrs. Rose
Chadwick, Florence
Chapman, William
Clark, Arthur
Clark, Edd
Croke, J.
De Boise, H. M.
Dyed, A. D.
Gibbs, William
Guckel, Chas. Henry
Gustafson, Gus.
Hall, James A.
Harris, William
Harrington, Lieut. Francis C.
Hinds, Stephen
Homes, Sam
Houben, August
Huff, William E.
Jones, A. N.
Jones, R. H.
Kastrud, B.
Kefauver, Mrs. Lloyd A.
Medinger, F. O.
Moore, Chas A.
Moore, Frank E.
Moulton, Nora
McKune, Thomas
McNeil, H.
McQuarrie, Bessie
Noble, Chas. E.
Otis, Harry
Rossell, J. A.
De Sabla, T. J.
Sprechen Von, Harry
Walker, Chas. R.
Weiss, E.
Williams, Isaac
Williams, Thomas J.
Wilson, George
Wilson, Wm. E.
Whitney, Frank H.
Wright, John A.

LETTERS UNCALLED FOR JANUARY 19, 1910.

Artrup, J.
Barth, Frank
Bartley, John J.
Brann, Joseph H
Carle, Lyman E.
Chiefler, Leonard
Cochran, T. A.
Ellis, H. Neil
Farrell, B. W.
Hardwick, H. L.
Hoff, Frank W.
Hunsecker, Frank
Keefe, Wm. R.
King, Benjamin B.
Lonande, Mrs. Cecil
Lyons, Isabelle
Medema, Gern
Melvin, Capt. B. O.
Moore, F. F.
McKinley
Neargarder, J. E.
Olsson, Capt. C.
Patton, T. J.
Purcell, P.
Smith, Howard
Sillerstein, Mina
Stevens, Frank
Stevenson, Holman
Thomas, Ben
Vincent, Emanuel
Wanner, Sydney
Ward, Style
Watson, Louise.
Weidener, Mrs. Frailey

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal and Colon, during the week ending January 15, 1910, with supplies for the Isthmian Canal Commission:

Rosa Lea, January 9, from Mobile and Gulfport, with 400 tons pig iron for Gorgona foundry; 97,000 feet white oak lumber for car and steam shovel repairs; 61,500 feet white oak lumber for Pacific Division; 102,500 feet yellow pine lumber and 4,691 cross-ties for Atlantic Division; 54 tons washers for locks; 18,249 cross-ties, 810 switch ties and 11½ tons cast iron washers for stock.

Panama, January 10, from New York, with 12 electric car trucks, 12 dredging sleeves, 2 narrow gage locomotives, 3 orange peel buckets, 1 pump and motor, 100,000 feet tape fuse and 70,000 blasting caps for Atlantic Division; 146 steel axles, 29 tons castings for car repairs and 75 coils wire for electrical engineer and master mechanic; 30 tons steel forms and 25 barrels fire brick for Pacific Division; 170 tons steel castings, etc. for lock construction; 573 coils Manila rope, 4 tons bolts and nuts, 26 tons rivets, 1,500 kegs track spikes, 14,900 gallons lubricating oil, 14,500 electric fuses, 30,000 feet lead wire, 49 bars steel angles and 34 bundles shovels for stock; 50 cases medical supplies for hospitals and veterinarians; and a miscellaneous cargo aggregating 5,931 packages weighing 1,016 tons.

Abangarez, January 13, from New Orleans, with 65,000 feet yellow pine lumber, 6,000 feet white oak lumber and 28 creosoted piles for Pacific Division; 34 creosoted piles and 1 yellow pine timber for Atlantic Division; 160 switch ties, 18,000 fire brick, 20 push cars, 22 tons soil pipe and 67,000 feet yellow pine flooring for stock; 20,000 paving brick for Civil Administration, 10,500 pounds rosin for manufacture of larvacide.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Cristobal	P. R. R.	Wednesday	Jan. 12
Colon	P. R. R.	Monday	Jan. 17
Advance	P. R. R.	Saturday	Jan. 22
Panama	P. R. R.	Friday	Jan. 28
Allianca	P. R. R.	Thursday	Feb. 3
Colon	P. R. R.	Thursday	Feb. 10
Advance	P. R. R.	Wednesday	Feb. 16
Panama	P. R. R.	Wednesday	Feb. 23
Allianca	P. R. R.	Tuesday	Mar. 1
Colon	P. R. R.	Monday	Mar. 7
Advance	P. R. R.	Saturday	Mar. 12
Panama	P. R. R.	Friday	Mar. 18
Allianca	P. R. R.	Thursday	Mar. 24
Colon	P. R. R.	Thursday	Mar. 31

CRISTOBAL TO NEW YORK.

Allianca	P. R. R.	Friday	Jan. 21
Colon	P. R. R.	Friday	Jan. 28
Advance	P. R. R.	Thursday	Feb. 3
Panama	P. R. R.	Wednesday	Feb. 9
Allianca	P. R. R.	Tuesday	Feb. 15
Colon	P. R. R.	Tuesday	Feb. 22
Advance	P. R. R.	Monday	Feb. 28
Panama	P. R. R.	Monday	Mar. 7
Allianca	P. R. R.	Sunday	Mar. 13
Colon	P. R. R.	Saturday	Mar. 19
Advance	P. R. R	Friday	Mar. 25
Panama	P. R. R.	Thursday	Mar. 31
Allianca	P. R. R.	Wednesday	Apr. 6
Colon	P. R. R	Tuesday	Apr. 12

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

NEW YORK TO COLON.

Prinz Aug. Wilhelm	H.-A.	Saturday	Jan. 15
Thames	R.-M.	Saturday	Jan. 22
Prinz Joachim	H.-A.	Saturday	Jan. 29
Atrato	R.-M.	Saturday	Feb. 5
Prinz Aug. Wilhelm	H.-A.	Saturday	Feb. 12
Tagus	R.-M.	Saturday	Feb. 19
Prinz Joachim	H.-A.	Saturday	Feb. 26
Oruba	R.-M.	Saturday	Mar. 5

COLON TO NEW YORK.

Almirante	U.F.C.	Saturday	Jan. 22
Atrato	R.-M.	Wednesday	Jan. 26
Prinz Aug. Wilhelm	H.-A.	Tuesday	Feb. 1
Tagus	R.-M.	Wednesday	Feb. 9
Prinz Joachim	H.-A.	Tuesday	Feb. 15
Oruba	R.-M.	Wednesday	Feb. 23
Prinz Aug. Wilhelm	H.-A.	Tuesday	Mar. 1

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

NEW ORLEANS TO COLON.

Atenas	U.F.C.	Saturday	Jan. 15
Cartago	U.F.C.	Saturday	Jan. 22
Abangarez	U.F.C.	Saturday	Jan. 29

COLON TO NEW ORLEANS.

Atenas	U.F.C.	Tuesday	Jan. 25
Cartago	U.F.C.	Tuesday	Feb. 1
Abangarez	U.F.C.	Tuesday	Feb. 8

COLON TO BARBADOS, CALLING AT TRINIDAD.

Clyde	R.-M.	Tuesday	Feb. 1

A ship of the United Fruit Company's line sails from the dock at Colon, at 3 p. m., Tuesday of each week.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Mexican* for New Orleans, via Kingston, Ja., on or about February 7.

Vessels arriving at or departing from Balboa during the week ending January 15 were as follows:

Arrivals—January 10, *Limari*, from south ports; *Peru*, from San Francisco; January 12, *Arica*, from Guayaquil; January 13, *Quito*, from intermediate ports.

Departures—January 9, *Barracouta*, for Central America, January 10, *City of Para*, for San Francisco; January 11, *Aysen*, for south ports; January 12, *Fitzclarence*, for Puget Sound.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, JANUARY 26, 1910. No. 22.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Chairman's Monthly Report.

The report of the Chairman of the Isthmian Canal Commission for the month of December is published in full in other columns of this issue of THE CANAL RECORD. It gives a detailed account of the progress of Canal work in all departments and divisions.

Contract for 250 Dump Cars.

The contract to build, and deliver knocked down at Colon, 250 steel dump cars of 19 cubic yards capacity, air dumping device, has been awarded to the William J. Oliver Manufacturing Company of Knoxville, Tenn., which on competitive bid offered to furnish cars suited to the needs of the Canal work at $1,434 each, a total of $358,500, deliveries to be completed in 165 days. The only other bid received, that of the Western Wheeled Scraper Company, was for $1,935 for each car, a total of $483,700, deliveries to be completed in 240 days. The cars offered by the high bidder are similar to the 19-yard air dump cars now in the service, 200 of which were supplied in 1906, and 100 in 1907, at a cost of $2,150 each.

The cars to be furnished under the new contract will be delivered in large pieces and will be set up at Gorgona shops. They will be of steel plate reinforced with tee rails, floor plates seven-sixteenths of an inch thick; side and end plates three-eighths of an inch thick; side doors to rise automatically when car is tipped for dumping; dumping process to be by means of compressed air supplied from the locomotive attached to the train. In the cars now in use the dumping device consists of a cylinder and a set of levers, chains, shafts, and cams for each side of the car, by which the bed of the car is drawn down to the dumping angle and returned to a horizontal position.

In the cars to be supplied under the new contract the power to dump will be applied from two cylinders placed on either side of the running gear and vertical to the car body, so that the piston will act directly on the bottom of the car, thrusting upward. The cylinders will be 20 inches in diameter, and with 90 pounds of air supplied from the locomotive, they will exert an upward thrust of 28,260 pounds. Each car will have a rated capacity of 80,000 pounds; light weight, 44,000 pounds; inside length, 24 feet; inside width, 9 feet; inside depth, 2 feet 4 inches; degree of curvature, 20 degrees; height of body above rail, approximately 7 feet 8 inches. A representative of the low bidder came to the Isthmus to be here when the bids were canvassed, and he has agreed to a few minor changes suggested by experience on the Canal work. Fifty of the cars are to be delivered knocked down on the Isthmus within 90 days after the signing of the contract; 50 more within 120 days, and fifty each fifteen days thereafter until the 250 cars have been delivered.

Two hundred of the cars are to be used in hauling material from Culebra Cut to Gatun Dam, and fifty are for use in the Pacific Division sand and rock service.

A Case of Yellow Fever.

W. B. Mason, an Englishman, 18 years of age, died at Ancon Hospital on the morning of January 24, from yellow fever. He came to the Isthmus from Liverpool on the *Barbadian*, which arrived at Colon on January 6. The ship stopped at Cartagena, in Colombia, a port against which quarantine has been maintained for several years, but from which no yellow fever has been reported in several months. On arriving at Colon, he was subjected to the usual examination and made a certificate, which was signed by the purser on the ship, to the effect that he had not left the ship at Cartagena. He then went direct to Panama, and there procured employment in a tobacco shop. On January 12, he became ill, and on the 19th, was admitted to Ancon Hospital. On the 22d the case was diagnosed as yellow fever, and death occurred on the 24th. He is survived by a sister, who is employed in the family of Ramon Arias in Panama.

The shop in which Mr. Mason worked and the buildings contiguous to it were fumigated in order that the mosquitoes which may have bitten him might be killed before the disease had time to develop in them to the stage where they could contribute it to human beings.

Dry Weather Excavation in Central Division.

On January 20 the amount of material excavated in the Central Division, principally from Culebra Cut, was 61,653 cubic yards, car measurement. The car measurement usually runs a little below the place measurement computations. This was the best day's work since the heavy rains began in November. With the present shortage of cars, due to the withdrawal of equipment from the Central Division to parts of the work where it is more urgently needed, and the increase in the number of 19-yard dump car trains sent each day to Gatun, it is not expected that the excavation records of the present dry season will be so great as those of the dry season of 1909. The shortage of cars is only temporary, but will extend throughout the dry season.

Contract for Sale of Scrap Iron and Steel.

The Secretary of War has accepted an offer made by the Maurice Rosenthal Investment Company of New York to purchase all the French and American scrap iron and steel sent from the Isthmus to New York, at the rate of $17.20 per short ton. The agreement may be terminated at the will of the Secretary of War.

The Barrier at Bas Obispo.

The barrier that keeps the Chagres River from flowing into Culebra Cut at Bas Obispo was washed out in the flood of December 26–29. The top was at 72 feet above sea level, which is 26 feet above low water in the river at this point, high enough to keep out the water in any but excessive freshets. At 3 o'clock on the afternoon of the 26th the water flowed over the top of this barrier and washed out a channel 21 feet deep at its deepest point and 200 feet long. So long as the water in the river was falling the break served as an outlet for the water in the Cut, and no effort was made to restore the dike. Warning came on the morning of the 30th that another freshet was coming down the valley, and the work of restoring the dike to keep this water out of the Cut was begun at once. The police were called on to get laborers for the work, and in the early morning the filling was under way. In all, 3,200 cubic yards of soft and hard rock were dumped into the break, and the top of the fill was kept above the rapidly rising water. The river rose to 69.4 feet at 4 o'clock on the afternoon of the 30th, and then began to fall.

Water Facilities at Palo Seco and Culebra Island.

Arrangements are in progress for the installation of a small water system at the Palo Seco leper settlement. An artesian well was sunk there a few months ago which furnishes an excellent quality of water, but the natural flow has since ceased, requiring pumping. It is now proposed to erect a 10,000 gallon tank on the hill back of the asylum buildings, from which the water can be distributed by gravity. A 20-horse power gasoline engine will be used to pump the water into the tank, from which it will be supplied to a system of pipes extending to the various buildings, thereby enabling the installation of toilets and lavatories, a convenience not now enjoyed. The well water, while absolutely pure, and pleasant to the taste, is hard

NOTES OF PROGRESS.

(*Continued.*)

in quality, and for this season, unsuited for laundry purposes. To remedy this, a special stove will be added to the settlement equipment, and the water boiled before using it for washing clothes.

The well started a short time ago on Culebra Island by the Pacific Division forces at Balboa, to furnish water for the quarantine station, has been abandoned upon recommendation of the Chief Sanitary Officer, after reaching a depth of about 80 feet. A very hard grade of granite was encountered and progress through it was so slow, that it was deemed unprofitable to continue the work further. The rain water tanks will continue to supply water for domestic uses, while, during the dry season, drinking water will be brought from the mainland. Upon the completion of the breakwater, a pipe line will probably be laid to Naos Island, and thence to the quarantine station.

Pedro Miguel Locks.

A total of 3,558½ cubic yards was added to the concrete construction at the Pedro Miguel Locks during the week ending January 22, an average of 593 cubic yards for each of the six eight hour working days. The amounts laid by days were as follows:

	Cubic Yards.
January 17	554½
January 18	648
January 19	512½
January 20	650½
January 21	596
January 22	597
Total	3,558½

The amount laid from the beginning of work on September 1, 1909, to January 22, 1910, inclusive, is shown below:

	Cubic Yards.
September	2,369½
October	8,396¼
November	10,080½
December	13,148½
January 1 to 8 (6 days)	4,322¾
January 10 to 15, inclusive	4,334
January 17 to 22, inclusive	3,558½
Total	46,210

Building Gatun Locks.

The rate at which the concrete is being laid in the locks at Gatun continued to increase during the week ending January 22. The record by days follows:

	Cubic Yards.
January 17	1,947
January 18	1,878
January 19	2,003
January 20	2,356
January 21	2,215
January 22	2,544
Total	12,943

The record by months follows:

	Amount-Cu. yds.	Average per day—Cu. yds.
August (seven days)	1,298	185
September (26 days)	12,294	473
October (31 days)	29,378	948
November (24 days)	30,270	1,261
December (26 days)	42,832	1,647
January 1 to 8 (6 days)	11,065	1,844
January 10 to 15 (6 days)	12,480	2,080
January 17 to 22 (6 days)	12,943	2,157
Total	152,660	1,156

There were also laid in the Spillway of Gatun Dam during the week ending January 22d., 784 cubic yards.

Sailing of the Cristobal.

The sailing date of the *Cristobal*, from pier No. 11, Cristobal, has been fixed for 3 p. m., January 29, 1910.

RAINFALL IN 1909.

The greatest rainfall for one year ever recorded on the Isthmus of Panama was that of 1909, at Porto Bello, 237.28 inches. The greatest annual rainfall previously recorded was that of 1898, at Bohio, 204.61 inches. The rainfall of 151.46 inches at Alhajuela in 1909, was the greatest ever recorded at that station, and the records run back nine years. At Cristobal, the record has been kept for 38 years, and the rainfall of 1909, 183.41 inches, was greater than that of any previous year of record. The highest up to 1909, was that of 1872, when 168 5 inches of rain fell. The rainfall at each station, for each month of the year, and the total for the year, are shown in the following table:

Station.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Alhajuela	2.72	3.71	0.29	3.54	14.32	19.73	13.64	8.15	7.50	19.32	36.22	22.90	152.04
Ancon	2.90	2.90	0.18	2.92	9.10	9.90	9.01	6.84	3.86	8.77	15.14	12.39	83.91
Balboa	1.45	1.69	0 14	2.83	9.69	12.06	14.92	6.86	4 11	11.20	15.99	12.12	93.06
Bohio	7.29	3.74	3.66	7.23	13.69	12.31	11.07	10.01	10.43	16.34	35.39	20.53	151.69
Brazos Brook	9.10	4.13	2.90	6.23	7.51	18.63	12.23	10.67	9.66	14.82	38.17	36.45	170.50
Camacho	3 29	2.16	0.40	2.64	9.34	10.52	8.68	8.03	13.01	20.63	27.07	10.54	116.31
Cristobal	10.61	1.92	1.85	3.56	7.21	17.49	12.83	15.42	16.33	19.31	42.50	34.38	183.41
Culebra	2.96	2.46	0.15	2.56	7.36	9.44	7.95	8.32	8.40	17.70	24.46	10.58	102.34
Fl Vigia	3.91	4.88	0.32	2 32	15.54	16.93	14.09	11.24	10.91	20.93	35.64	10.90	147.61
Empire	2.28	1.50	0 21	3.33	7.73	7.84	8.27	7.20	7.22	21.14	20.99	9.44	97.15
Gamboa	2.77	4.07	0.56	5.55	15.37	9.55	11.59	7.03	7.90	16.98	28.41	12.33	122.11
Gatun	7.17	4.12	2.99	4.03	8.98	16.35	11.46	9.92	10.86	15.55	41.10	31.66	164.19
Monte Lirio	7.94	5.69	4.85	7.18	9.29	12.36	15.63	8.39	9.87	13.38	34.73	24.08	153.39
Nombre de Dios	15.26	8.64	1.43	12.58	8.11	18.02	16.94	12.15	7.72	18.17	25.62	36.04	180.68
Pedro Miguel	3.08	3.26	0.59	2.32	8.50	14 19	9.19	10.07	10.22	17.47	20.38	11.30	110.57
Porto Bello	20.90	6.82	3.56	12.56	9.69	17.70	26.33	13.83	13.99	8 70	45.00	58.17	237.28
Rio Grande	3.85	2.88	0.18	2.63	7.32	9.27	8.13	9.12	11.23	18.52	24.17	10.56	107.86
San Pablo	4.09	1.76	0.46	5.50	9.00	10.80	10.63	9.04	12.17	15.81	27 59	12.10	118.95
Tabernilla	4.58	2.87	0.99	6.30	10.07	11.16	10.78	9.78	13.10	17.02	30.84	13.59	131.08
Trinidad	7.58	4.27	3.08	6.96	10.79	14.86	10.78	9.50	18.64	14.58	33.28	18.49	147.81

For purposes of comparison, the mean yearly rainfall for several cities in the United States is given:

Boston	45.4	Galveston	47.7	Portland	46.2
Charleston	49.1	Key West	38.2	St. Louis	40.8
Chicago	34.0	New Orleans	60.3	Salt Lake	18.8
Cincinnati	42 1	New York	44.7	San Francisco	23.4
Denver	14 3	Omaha	31.4	Washington	42.9
Duluth	30.7	Philadelphia	42.3		

The greatest rainfall given above, that of New Orleans, was only one-fourth of that which fell at Porto Bello in 1909.

P. R. R. RELOCATION.

Gap Between Gatun and Monte Lirio Will Probably be Closed by April 30.

There is a gap of about two miles, between the ends of temporary tracks, that must be closed before the relocation of the Panama railroad will be open from Gatun to Gamboa bridge. This gap is between a point in the Gatun River valley about four miles east of Gatun, and Monte Lirio, a station on the south side of the Gatun River, and it is expected that it will be closed before the end of April. It is probable that concrete laying in the Spillway of Gatun Dam will have advanced to a point in April that will make it practicable to close the West Diversion of the Chagres River at Gatun, thus backing the water in the river up to 10 feet above sea level, and subjecting the present line of the Panama railroad to inundation from the freshets of the early part of the rainy season.

The line that will be available on the relocation between Gatun and Gamboa will be temporary, but can be used in case the present railroad is put out of service by the water. It will follow the contour of the Gatun River bottom land at the point of crossing that river, which is about 4½ miles east of the Canal. The work of making the big fill and building the bridge across the river will be carried on while the temporary tracks are in service. About eight thousand feet of trestle must be driven in the two miles between the ends of temporary track in this section and the pile drivers are now at both ends of the gap working toward one another. In addition to the gap on the section between Gatun and Gamboa bridge, there is a gap of about one mile between Miraflores and Corozal, which will also be closed during April.

Other than the nine miles of track that will be laid through Culebra Cut, the fills that must be made across the Gatun valley, and the erection of permanent station buildings and telegraph lines, the work on the relocation is nearly eighty per cent completed. Work on the surveys was begun in July, 1906, and construction was started in May, 1907. During the fiscal year 1908 the work accomplished included 487,824 cubic yards of material excavated; 2,055,000 cubic yards placed in embankments; 15,220 cubic yards of concrete placed in permanent structures; 4⅓ miles of trestle driven; 600 linear feet of tunnel driven; 13 miles of temporary track, and 7 miles of permanent track laid; the steel bridge across the Chagres River at Gamboa completed; headings on the Miraflores tunnel completed, and the work of lining the tunnel with concrete begun.

In the fiscal year 1909 the work accomplished included 914,118 cubic yards of excavation; 2,650,493 cubic yards of material placed in embankments; 17,909 cubic yards of concrete placed in permanent structures; 4 miles of trestle driven; 13 miles of temporary track, and 13 miles of permanent track laid, and the Miraflores tunnel completed.

After standard gage track is closed over the section of the railroad between Gatun and Gamboa, and that between Pedro Miguel and Corozal, the construction work to be done will be chiefly grading cuts to permanent slopes, and completing the fill across the Gatun valley. The 100 steel dump cars of 12 yards capacity, for which advertisements have been made in the States, are for work on this fill, in which it is estimated that about 3,000,000 cubic yards of material will be placed.

CANAL MEDALS.

Panama Railroad Relocation and Commissary Employes, Entitled to Medals, or Bars.

There is published below a list of employes on the Panama railroad relocation work and in the Commissary, who have earned a Canal Medal, or a Medal bar, during the calendar year ending December 31, 1909. It is requested that all persons interested carefully check this list and report any errors which it may contain, to the Assistant to the Chairman, for correction.

A similar list of employes of the Isthmian Canal Commission, who have earned a medal, or bar, during the past year, will be published in a subsequent issue of THE CANAL RECORD.

In reply to inquiries regarding the probable date of the issuing of the medals earned in the past calendar year, it is to be said that a few weeks will be allowed to elapse after the publication of the last list, in order that employes may send in corrections. The lists will then be corrected and sent to Washington, when the engraving will be ordered. It is not likely that the medals and bars will be ready for distribution before July 1, 1910.

PANAMA RAILROAD RELOCATION EMPLOYES ENTITLED TO MEDALS.

Name.	*Service commenced.*
1907.	
Cooper, Gilbert K	January 30
Anderson, Frank	February 22
Fowler, Washington	February 22
LaRowe, John H	April 2
Maynor, John	May 4
Cheeks, William H	May 8
Tobias, J. P	May 9
Murray, Walter F	June 14
Donellan, Joseph F	June 17
Cammack, Charles	June 20
Smith, George W	June 25
Mitchell, Michael	June 27
Needham, Lawrence K	June 29
Brown, Lester S	August 2
Doyle, Frank A	August 12
Fulton, Robert	September 30
Adkins, Harry	November 1
Bishop, Emmit E	November 5
Liney, John J	November 14

EMPLOYES ENTITLED TO SERVICE BARS.

NAME.	Service commenced.	Bar due.
	1905.	*1909.*
Lucchesi, Arthur P	Feb. 9	Feb. 9
Warren, Horace P	Apr. 24	Apr. 24
Purdum, J. A	May 15	May 15
Nelson, Clyde A	June 5	June 5
Bedell, William H	Oct. 7	Oct. 7
Carroll, Lon N	Oct. 31	Oct. 31
Campion, Richard G	Nov. 25	Nov. 25
Chamberlain, D. T	Dec. 2	Dec. 2
Laird, James	Dec. 2	Dec. 2
Reader, William E	Dec. 2	Dec. 2
Wyman, Charles A	Dec. 16	Dec. 16

COMMISSARY EMPLOYES ENTITLED TO MEDALS.

Name.	*Service commenced.*
1907.	
Meyer, William A	February 1
Edwards, George S	April 30
Hogan, Andrew V	May 6
Daniels, William L	June 8
Weiser, Carl	June 8
Barnes, Charles W	June 21
Gilkey, Arthur P	August 14
Beyer, Ernst A	August 19
Leonard, Verna	August 21
Barber, John G	August 25
Strong, Harry F	August 26
Jordan, Charles E	August 27
Plante, Ida	September 22
Williams, J. B	September 23
Littlefield, W. T	September 24
Culbertson, Benjamin	October 24
Bastian, Fred K	November 7
Peet, Ernest M	November 13
Heverly, J. Harvey	December 2
Keene, Charles B	December 3
Barlow, Herbert	December 5
McCally, Homer W	December 15
Bastian, Nellie J	December 19
Thomas, Earl	December 24

COMMISSARY EMPLOYES ENTITLED TO SERVICE BARS.

NAME.	Service commenced.	Bar due.
	1905.	*1909.*
Burke, John	Feb. 13	Feb. 13
Eppelsheimer, I. Peterson	Mar. 7	Mar. 7
Austin, Charles B	July 29	July 29
Floyd, Frank	Aug. 6	Aug. 6
Goldsmith, Edwin	Aug. 14	Aug. 14
DeGrummond, Raymond	Nov. 25	Nov. 25
Parmelee, Edward H	Dec. 18	Dec. 18

MONEY ORDER BUSINESS IN 1909.

The business of the Canal Zone post-offices in the calendar year 1909, compared with that for previous years, is shown in the following statement:

	1906.*	1907.	1908.	1909.
Money orders:				
Number issued	32,106	122,488	172,768	192,720
Value	$869,260.06	$3,633,670.81	$5,165,599.52	$5,132,637.97
Fees	3,708.58	15,126.95	21,443.10	22,101.33
Paid and repaid, value	46,653.41	592,385.04	1,387,358.51	1,477,394.74
Stamps, value	42,197.04	67,558.77	73,514.93	77,317.28

*June to December, 1906.

About 88 per cent of the money sent away from the Canal Zone by money order is destined for the United States, and almost all of the remainder for the West Indies. Money sent home by European laborers is transmitted by draft. The money order is only one of the methods in use among Canal workers for sending money to the States, or elsewhere. The Disbursing Officer issues treasury checks for the full amount of an employe's salary on request; the local banks sell drafts and issue checks, and from the difficulty experienced in keeping "paper" money in the Canal Zone, it is evident that considerable currency is sent to the United States in letters.

The money order business grew or decreased during the year in the various localities, according as work on the Canal called for an increased or decreased force of men. At Miraflores, the value of orders issued in 1908 was $21,306.19, and in 1909, it was $84,797.90. The business at Gatun nearly doubled, as it was $264,675.09 in 1908 and $460,930.47 in 1909; and there was an increase at Bas Obispo, Corozal, Cristobal, Balboa, San Pablo, and Tabernilla. The money order business decreased in value at Ancon, Culebra, Empire, Gorgona, Las Cascadas, Matachin, Paraiso, and Pedro Miguel.

The largest amount of money order business done in one month was that of December, 1909, when $460,314.08 was issued in 19,862 orders. Of this amount, $368,612.65 was payable in the United States and the West Indies Islands that transact money order business through the New York post-office; $486.50 in Martinique, and $91,212.83 in the Canal Zone.

EXECUTIVE ORDER.

Exemption of Bonding Companies.

By direction of the President, it is ordered: That the Executive Order of March 12, 1907, effective July 1, 1907, be and the same is hereby amended by the addition of the following:

Provided, That indemnity insurance companies whose business within the Canal Zone consists solely of furnishing fidelity bonds of employes of the United States, which are required by the laws of the Canal Zone, or regulations of the Isthmian Canal Commission, shall hereafter be exempt from liability to pay the annual fee of fifty dollars and the license tax of one and one-half per centum of their premium receipts.

ROBERT SHAW OLIVER,
Acting Secretary of War.

WAR DEPARTMENT,
WASHINGTON D. C., *October 15, 1909.*

Isthmian Canal Medal Association.

All persons entitled to admission to the above Association are invited to attend the next meeting to be held in the Ancon lodge hall at Ancon, on Sunday, January 30, 1910, at 3.15 p. m.

E. F. J. GOLDSMITH,
Temporary Chairman.

Ancon, January 24, 1909.

Pacific Division Plants.

The ten day test of the first of the three unloading cranes erected at the Balboa sand dock for use in connection with the Pacific Division sand service was begun on Saturday, January 22.

The electrical connections have been installed for the operation of chamber crane No. 1 at the Pedro Miguel Locks, and it will be ready for the official test this week. Work on chamber crane No. 2 is now under way.

At the present rate of progress, the crusher plant at Ancon quarry will be completed and ready for operation shortly after the first of February. The cribbing, designed to protect the works from any further sliding movement of the earth at that point, has been finished, and the motors for the operation of the plant have been installed. The principal work remaining to be done is the reconstruction of the belt conveyor shed and the installation of the apparatus.

Vaudeville at the National Theater.

A special train will leave Colon at 5.30 o'clock on the evening of January 29 to carry persons desirous of attending the all-star vaudeville to be given at the National Theater in Panama in aid of The Church of The Holy Redeemer at Culebra. The train will return to Colon after the performance, making all stops. The schedule from Colon to Panama follows:

Leave.	*P. M.*	*Leave.*	*P. M.*
Colon	5.30	Las Cascadas	6.59
Mt. Hope	5.35	Empire	7.04
Gatun	5.48	Culebra	7.09
Bohio	6.10	Summit Cabin	7.11
Frijoles	6.17	Paraiso	7.17
Tabernilla	6.25	Pedro Miguel	7.21
San Pablo	6.30	Miraflores	7.26
Gorgona	6.43	Corozal	7.30
Matachin	6.48	Arrive Panama	7.45
Bas Obispo	6.52		

At the auction sale of boxes held at the office of the District Quartermaster in Ancon, on January 23, a number of boxes remained unsold and these will be disposed of in the order of application, at $20 each. All tickets will entitle the holders to transportation on the special train.

Foul Play Near Empire.

C. A. McKenzie, a cabinet-maker, and Ella Williams, his cousin, both Jamaicans and residents of Empire, were found dead in the bush near the road to the Las Cascadas plantations, on Wednesday, January 19, the wounds on their persons indicating foul play. Alfred Brooke, also a Jamaican, is under arrest on suspicion of having connection with the affair. He was found on the same date severely wounded and was taken to Ancon Hospital, where he is under guard.

CANAL WORK IN DECEMBER.

Monthly Report of the Chairman to the Secretary of War.

CULEBRA, C. Z., January 18, 1910.

The Honorable the Secretary of War,
Washington, D. C.

Sir—I have the honor to submit the following report of operations on the Isthmus for the month of December, 1909:

The following table summarizes the principal items of construction work accomplished by the Atlantic, Central and Pacific Divisions during the month:

Item.	Unit.	Atlantic.	Central.	Pacific.	Total.
Work excavation, dry	Cubic yards	96,590	1,257,066	48,425	1,402,081
Work excavation, wet	Cubic yards	489,121	....	727,460	1,216,581
Total work excavation	Cubic yards	585,711	1,257,066	775.885	2,618,662
Plant excavation, dry	Cubic yards	....	1,467	52,063	53,530
Plant excavation, wet	Cubic yards	139,489	....	....	139,489
Total plant excavation	Cubic yards	139,489	1,467	52,063	193,019
Total Canal excavation	Cubic yards	725,200	1,258,533	827,948	2,811,681
Material placed in dams	Cubic yards	327,931	....	12,679	340,610
Concrete placed	Cubic yards	43,804	36	13,425	57,265
Explosives used	Tons (Gross)	39.91	320.69	27.16	387.76
Rock drilling	Feet	47,114	371,999	68,072	487,185
Track removed	Miles	....	13.10	....	13.10
New track laid	Miles	2.71	14.80	2.22	19.73
Rock crushed	Cubic yards	42,747	2,640	13,754	59,141
Cement used	Barrels	45,718	75	13,771	59,564
New roads built	Miles	....	....	....	....
Water mains laid	Feet	7,832	2,369	723	10,924
Sewers laid	Feet	1,057	1,273	1,583	3,913
New drains and ditches dug	Feet	2,780	1,326	1,225	5,331
Average daily force		7,176	8,709	4,390	20,275
Rainfall, average	Inches	36.59	9.44	11.89	15.85

Atlantic Division.

GATUN LOCKS.

Excavation—Excavation during the month was carried on in all three lock chambers, and in a portion of the lock south of the emergency dam. The portion south of the emergency dam was 95 per cent completed. The channeling in the upper lock was completed, except the filling culvert between the lower gate. The culvert excavation in the west chamber of the upper lock was 50 per cent completed.

Receiving and Issuing Material—The receipts of cement during the month were satisfactory. The receipts of stone from Porto Bello and sand from Nombre de Dios and from the Pacific Division were seriously interfered with by high water.

Concrete Mixing Plant—From four to six mixers were kept in operation in the main mixing plant. Mixing plant No. 2 has been completed and was put into operation during the latter part of the month, the concrete turned out by it being deposited by means of dump cars. The various component parts of the mixing plant and the industrial railroad were operated satisfactorily.

Cableways—The lock cableways were operated most satisfactorily during the month, and the unloading cableways fairly satisfactorily.

Concrete Work—The amount of concrete showed a satisfactory increase over the amount laid in November, although heavy rains interfered with the work. The work on the tower forms did not progress as rapidly as was hoped, on account of the heavy rains.

Iron and Steel Work—The setting of castings in the sill of the emergency dam was commenced, and was 12½ per cent completed at the close of the month.

GATUN DAM.

Construction during the month increased the total fill by 317,831 cubic yards, making the total amount in place at the close of the month 5,346,896 cubic yards.

Hydraulic Fill—Dredges *Nos. 82* and *85* were operated during the entire month, and dredge *No. 83* about one-half of the month, making a fill in the Dam of 179,658 cubic yards, which made the total hydraulic fill at the close of the month 2,096,477 cubic yards.

Enrockments—Material received from the Central Division, the Locks and the Spillway, amounting to 138,173 cubic yards, was placed on the north and south toes of the Dam, making a total dry fill in place of 3,250,419 cubic yards. Bas Obispo rock was placed in storage at New Gatun to the amount of 6,077 cubic yards, making a total in place of 168,832 cubic yards, 25 per cent being allowed for swell. Bas Obispo rock to the amount of 2,669 cubic yards was used in general track work for ballast.

GATUN SPILLWAY.

The flood water from the November rise continued to flow through the Spillway until December 6, when a small levee was thrown up to cut off this flow. Pumps were installed and the cut had been dried up sufficiently to get one steam shovel started, when another rise began on December 10. By working the entire force three days and three nights, this flood was prevented from flowing through the Spillway, and after it started to subside, the pumps which had been withdrawn were again installed, the cut dried up and excavation and laying of concrete was resumed, but lasted only a few days, when the flood of December 26 again forced the abandonment of all work, except that of levee protection, and work had not been fully resumed at the close of the month.

Excavation—The material excavated amounted to 9,703 cubic yards, making the total at the close of the month 2,341,839 cubic yards.

Concrete—On account of the interference of the floods, only 633 cubic yards of concrete were placed in the Spillway, making the total at the close of the month 51,011 cubic yards.

HARBOR AND CHANNEL SECTION.

Dry Excavation Below Sea Level at Mindi—There was no dry excavation at Mindi during the month.

Dredging from the Ocean to Mindi—Four dredges removed from the prism 486,311 cubic yards of earth and 2,810 cubic yards of rock. In addition, the *Caribbean* removed 7,760 cubic yards of earth from the approach channel and 3,880 cubic yards of earth from in front of pier No. 11. The *Mindi* removed 4,550 cubic yards of earth from the approach channel and 9,206 cubic yards of earth and 10,018 cubic yards of rock from the French canal. The *Chagres* removed 25,786 cubic yards of earth and 6,800 cubic yards of rock from the French channel. High water interrupted dredging to a considerable extent. On December 31st, 40 feet of water could be carried from 0 to mile 2 plus 1,800 feet; 30 feet to mile 3 plus 1,200 feet; 20 feet to mile 4 plus 2,300 feet, and 10 feet to mile 5 plus 570 feet, the end of the cut.

PORTO BELLO.

Commencing December 7, the plant operated 12 hours a day until December 27, when two 8-hour shifts were started. The excessive rainfall at Porto Bello, exceeding anything heretofore recorded on the Isthmus, lessened the output for that week. Several slides and heavy rainfall handicapped the work for many hours on many days throughout the month. However, the production of crushed rock was satisfactory, amounting to 42,747 cubic yards for the month.

NOMBRE DE DIOS.

During the month 7,171 cubic yards of sand were shipped to Cristobal in 12 barges.

MUNICIPAL ENGINEERING AND BUILDING CONSTRUCTION.

The usual work of maintenance of roads, water works and sewers, pumping stations, etc., was satisfactorily performed, and satisfactory progress was made on the construction of the Agua Clara reservoir, which was the largest item of construction work being performed by the municipal engineering subdivision during the month.

Central Division.

During the month of December, the total amount of material excavated in the Central Division was 1,258,533 cubic yards, of which 253,445 cubic yards were classified as earth and 1,005,088 cubic yards as rock. Of this quantity, 1,250,576 cubic yards were removed by steam shovels, 1,248 cubic yards by hand, and 6,709 cubic yards by contract. Of the total, 1,257,066 cubic yards were taken from the Canal prism and 1,467 cubic yards for an incline track at Tabernilla.

The daily average number of steam shovels at work during the month was 43.15, and the total number of shovel days was 1,122, as compared with 41.75 steam shovels at work during the month of November, with 1,002 shovel days. The number of shovel days actually lost in each district on account of floods and slides caused by the unusually heavy rainfall was as follows:

Tabernilla District	33
Bas Obispo District	28
Empire District	0
Culebra District	2
Total	63

For comparison with the work done by steam shovels during the corresponding month of the previous year, the following table has been prepared:

Period.	Excavated by shovels.	Classification of material.		Av. No. of shovels at work.	W'k'g days.	Av. yards per shovel day.
		Rock.	Earth.			
1908:	*cu. yds.*	*cu. yds.*	*cu. yds.*			*cu yds.*
Dec.	1,596,695	1,070,813	525,882	50.73	26	1,210.5
1909:						
Dec.	1.250 576	1,005,088	245,488	43.15	26	1,114.6

Rainfall at Empire: 1908, 5.09 ins.: 1909, 9.44 ins.

The above table shows the average output per shovel day to be 7.9 per cent less in December, 1909, than in the corresponding month of the previous year. This loss in efficiency was caused by the extraordinary flood of the Chagres River, which interfered with the excavation in that section and blocked the railway to the Tabernilla dumps, thus necessitating long hauls to other dumps.

During the month the following quantities of material were hauled from the Canal prism and dumped in the embankment for the new roadbed for the relocation of the Panama Railroad: 255,071 cubic yards between Caimito and Gamboa; 25,654 cubic yards in the vicinity of Pedro Miguel. The total at the close of the month for this purpose was 2,573,940 cubic yards. During the month 23,572 cubic yards of earth and 41,990 cubic yards of rock, from the Culebra Cut, were transported to Gatun for use in the construction of the Dam, making a total at the close of the month for this purpose of 190,172 cubic yards of earth and 627,878 cubic yards of rock.

Floods in the Chagres River and unusually heavy rainfall beginning December 26 and continuing until the end of the month, seriously interfered with the work as a whole, and the slides in the vicinity of Culebra continued to give trouble during the month.

Steam shovel repair work at Empire shops was continued throughout the month. On December 1st, 690 uncompleted shop orders were under way; 352 new shop orders were issued during the month, and at the close of the month 501 uncompleted shop orders were under way.

The daily average number of laborers at work on the whole division during the month was 7,699, the average number of gold men being 1,010.

Pacific Division.

DISTRICT NO. 1—LOCKS AND DAMS.

The total excavation during the month amounted to 100,488 cubic yards. No material was added to the prism of the west dam at Pedro Miguel, leaving the total at the close of the month 170,166 cubic yards. At Miraflores, 12,679 cubic yards of dry filling were added to the toe and no hydraulic filling was added to the core of the west dam, making the totals at the close of the month 472,091 cubic yards and 138,587 cubic yards, respectively. During the month 16,001 cubic yards of filling were placed in backfill, making a total at the close of the month of 54,779 cubic yards.

The erection of the handling plant at Pedro Miguel is progressing slowly. One chamber crane is nearing completion, and one berm crane is about 30 per cent completed. At the power house an additional unit was placed in operation, and erection was continued on the third generator. The transmission power lines were completed, with the exception of that to Ancon quarry.

At Miraflores, the track work to the hydraulic pumping station was continued, and excavation for the site of the pumping station begun.

At Ancon quarry, the work of stripping was continued; also, the removal of the material involved in the slide, and the building of the crib work to prevent further sliding and to provide foundation for the belt conveyor was begun.

DISTRICT NO. 2—DREDGING.

The following table gives the output of the five dredges which were in operation during the month:

Dredge	TYPE.	CUBIC YARDS.		Remarks.
		Work.	Plant.	
Culebra	Suction	337,395	5,000	Scow measurement
Marmot	Ladder	129,640	....	Place measurement
Badger.	Ladder	121,000	....	Place measurement
Mole...	Ladder	58,805	....	Place measurement
C'deuas	Dipper.	75,620	....	Place measurement
Total.	....	722,460	5,000	

DISTRICT NO. 3—MUNICIPAL WORK.

The maintenance and operation of the various municipal plants was continued satisfactorily. At the Rio Grande rock crusher, 13,754 cubic yards of crushed rock were produced.

During the month the work on the new improvements in Guachapali district, city of Panama, was started, consisting principally in excavating and laying the sewer mains.

Relocation of Panama Railroad.

During the month 169,513 cubic yards of material were excavated, making the total excavation at the close of the month 2,497,117 cubic yards, and 293,485 cubic yards of material were placed in embankment, making a total at the close of the month of 6,708,818 cubic yards.

During the month 2,456 linear feet of trestle were driven, and the work of constructing bridges and culverts was continued. A total of 4,038 linear feet of permanent track was laid during the month, making the total at the close of the month 143,920 linear feet.

Quartermaster's Department.

The Quartermaster's Department has hitherto operated, in addition to the Mount Hope Depot, the storehouses at Gorgona and Empire, in the Central Division. Effective January 1, 1910, by my order, the storehouses in the Atlantic Division at Gatun, Cristobal and Porto Bello, and the storehouses in the Pacific Division at Miraflores and Balboa, were placed in charge of the Quartermaster's Department. The operation of dock No. 14 at Cristobal was also turned over to this department, effective December 1.

The material and supplies ordered from the United States during the month amounted to $468,183.57, and those purchased on the Isthmus to $190,847.55, a total of $659.031.12.

On December 13, the construction at Gatun of six type-14 family houses and one type-18 bachelor house was authorized. It is expected that this construction will relieve the congestion now existing at Gatun.

Subsistence Department.

The operation of the European laborers' messes, the colored laborers' kitchens and the line hotels showed a net loss of $514.75, and the operation of the Hotel Tivoli showed a net loss of $1,158.76.

Department of Civil Administration.

COURTS.

The circuit courts of the Canal Zone disposed of 13 civil and 24 criminal cases, and the district courts of 95 civil and 586 criminal cases.

DIVISION OF POSTS, CUSTOMS AND REVENUES.

The net revenues of the Canal Zone were $20,223.86. The receipts from stamp and card sales and newspaper postage aggregated $8,154.01. The total of money order sales was $460,321.11, exceeding the sales during any previous month since the inauguration of the money order system in the Canal Zone.

During the month 19 vessels entered at and 19 vessels cleared from the port of Ancon, and 18 vessels entered at and 17 vessels cleared from the port of Cristobal.

DIVISION OF POLICE AND PRISONS.

The number of arrests during the month was 616, as compared with 464 for the month of November. At the close of the month 166 prisoners were confined in the common jails.

At the close of the month 111 convicts were confined in the penitentiary. The cost of guarding and subsisting convicts was $3,055.14, and the value of the work performed by them was $1,696.40. The labor of the prisoners was utilized in the construction of the Empire-Paraiso road, and the grading of streets in West Culebra.

DIVISION OF FIRE PROTECTION.

Seven fires were reported during the month, the total damage being estimated at $51.50.

DIVISION OF PUBLIC WORKS.

In the city of Panama the average daily consumption of water during the month was 957,225 gallons, and in Colon 738,903 gallons.

The usual inspection and maintenance work of this division was performed during the month.

DIVISION OF SCHOOLS.

The total enrollment in the white schools was 766, and the average daily attendance 667.9, or 90.3 per cent of the total enrollment. In the colored schools, the total enrollment was 947, and the average daily attendance 562.6, or 74.1 per cent of the total enrollment.

On December 16, the horticulturist heretofore assigned to the Quartermaster's Department was detailed for duty in the Division of Schools for one month, to supervise the organization of school gardens to be attached to some of the colored schools.

Department of Sanitation.

While the rainfall was much heavier than usual for December, the health conditions will compare favorably with those in the same month of previous years.

The table below shows a comparison of the annual death rates from 1904 to 1909, inclusive, for the month of December, for employes only:

DATE.	Number of employes.	Deaths.	Annual death rate per thousand.
December, 1904	8,022	13	19.44
December, 1905	19,417	74	45.73
December, 1906	29,331	74	30.27
December, 1907	45,715	69	18.11
December, 1908	41,219	86	25 03
December, 1909	48,544	56	13.84

Taking the number of cases of malaria as an index to the sanitary conditions on the Isthmus, the following table would indicate very satisfactory conditions during the month, this table showing admissions to hospitals of employes suffering from malaria:

Date.	*Annual rate per thousand.*
December, 1904	169
December, 1905	1.156
December, 1906	674
December, 1907	206
December, 1908	362
December, 1909	191

There were no cases of yellow fever, bubonic plague, or smallpox during the month.

Respectfully,

GEO. W. GOETHALS, *Chairman.*

SOCIAL LIFE OF THE ZONE.

Women's Clubs.

The tenth biennial convention of the General Federation of Women's Clubs will be held in Cincinnati, May 11 to 18. Members of the Federated Women's Clubs in the Canal Zone, who expect to be in the States at that time and can conveniently attend the convention, are requested to send their names to the corresponding secretary, Mrs. Frederick Mears, Cristobal, C. Z., in order that delegates may be chosen to represent the Zone Federation.

The annual complimentary concert of the Cristobal Woman's Club was held in the Commission clubhouse on Wednesday evening, January 19. The program consisted of songs by Madame Adolf Faure, Mr. William Bennyhoff, and Mr. David MacArthur; violin solo by Dr. Hill, and three groups of selections by the Cecelian Chorus, including a Grieg suite, ''At the Cloister Gate.'' The Cecelian Chorus was formed in 1908. There are seven members, Mrs. Otis Riddle, Mrs. P. G. Baker, Mrs. J. A. Smith, Mrs. Charles Jennings, Mrs. Leander Larson, Mrs. William Diers, and Mrs. George Andrews. Mrs. Frank Ullrich is the accompanist. The home department of the club met at the residence of Mrs. P. T. Murphy on January 10, when a paper on ''Spices'' was read by Mrs. Hughes.

The Gatun Woman's Club held an election of officers on January 14, the following being chosen: Mrs. W. H. Stevenson, president; Mrs. O. L. Brownell, vice-president; Mrs. Charles Stoddard, secretary; Mrs. W. G. Hanna, treasurer. The juvenile library belonging to the club has been forwarded to Cristobal for the work of the library extension committee of the Canal Zone Federation. The meeting of the club on Friday afternoon, January 21, was held at the home of Mrs. C. J. Carty. The president presented an outline of work for the next three months, which provides for a series of meetings with programs, including papers on general topics, discussions, home helps, and social entertainments. A suggestion for a ''State'' afternoon was made. The program would consist of a paper by each member on some characteristic feature of her state, introducing an outline of its history, study of prominent citizens, civic work, women's work, and other matters of general interest. A committee composed of Mrs. Perry F. Underhill, Mrs. W. M. Martin, and Mrs. A. C. Story was appointed to complete the schedule. The president appointed Mrs. Carty and Mrs. E. Kratley as refreshment committee.

The Gorgona Woman's Club met at the home of Mrs. R. Varenkamp on January 13, at which time the resignation of the president, Mrs. D. E. Hayes, was received. The organization of the Birthday Club was completed, and the membership is limited to twelve. The members are instructed to send gifts or greetings to each member, or ex-member, of the Gorgona Woman's Club on the anniversary of her birth.

At the meeting of the Empire Woman's Club on Thursday, January 13, a number of papers were read, including one on the part taken by the women of San Francisco in the movement for the extermination of rats. There was a short program of music, and refreshments were served.

Other Events.

The Sunshine Society of Gatun held an entertainment in the Commission chapel on the evening of January 20, the feature of which was a spelling match. Lieut.-Col. William L. Sibert and Messrs. Porter, Collins and Ourant constituted the committee on test words. The prize was won by Mrs. Perry F. Underhill. A voluntary contribution was taken at the door, and refreshments were sold. The proceeds amounted to about $70. Mrs. C. C. Collins was in charge of the entertainment. Early in February, the society will hold a sale of articles for bachelors. Mrs. W. Farrow is chairman of the work committee for the sale.

An open installation of officers in Paraiso Lodge No. 6, Knights of Pythias, was held in the lodge hall on Saturday evening, January 22. Following are the officers: Wm. S. Essex, grand chancellor; F. C. Lewis, vice-grand chancellor; John D. Harper, prelate; H. E. Willett, master of exchequer; P. D. Massey, keeper of records and seals and master of finance; A. R. Storey, master of arms; Charles J. Johnson, master of weapons; J. O. Stanley, inner guard; D. C. Crooks, outer guard. The ceremony was followed by the annual dance of the lodge. Refreshments were served.

The University Club of Panama will give a dance on the night of February 19.

Students of the National Conservatory of Music, Panama, held a recital in commemoration of the two hundred and thirty-seventh anniversary of the founding of the present city of Panama, at the National Theater on Friday evening, January 21. A number of American students took part.

The commencement exercises of Cristobal college, under the Christian Brothers, were held at 7 o'clock in the evening of January 24, with the Hon. James C. Kellogg, American Consul at Colon, presiding. An exhibition of school work was held during the last week of the school year.

The members of the Panama railroad orchestra will entertain their friends with a complimentary dance at Lincoln House, Colon, on Saturday evening, January 29, in celebration of the anniversary of the organization. Invitations will be issued.

The lawn tennis tournament held at the Tivoli courts in Ancon, on January 23, was won by the Ancon Hospital team in the doubles by the score of 6—4, 6—3 over the Tivoli team, and in the singles by Empire over Ancon Hospital by the score of 6—2, 2—6, 7—3. This is the first of a series of matches.

Church Notes.

Members of the community at Empire, who are interested in the Episcopal mission church of St. James, tendered their services for a concert which was held in the church on Tuesday evening, January 18. The program consisted of selections for violin by Mrs. W. H. Decker and Miss Jessie Smith; vocal solos by Messrs. Dohrman, Connor, and Gobrecht; vocal selections by a trio, Mrs. and Miss McIntyre and Mr. Dohrman; a reading by Mr. Squires, and an organ voluntary by Mrs. Smith.

The Union Christian League of Culebra will give a reception to Rev. Mr. Nellis and family at the Commission chapel on Friday evening, January 28, at 8 o'clock.

A cake sale for the benefit of the Woman's Altar Guild of St. Luke's Church, Ancon, will be held at Ancon hall, on Wednesday evening, February 2. There will be dancing. The next meeting of the guild will be held at the home of Mrs. W. C. Gorgas on Monday afternoon, February 7. Arrangements for the lenten meetings will be made at that time. The memorial window for St. Luke's has been received and will probably be in place at Easter.

A reorganization meeting, with election of officers, was held by the Empire Christian League on January 20. W. W. Warwick was elected president; E. R. Gobrecht, vice-president, and E. P. Beck, secretary-treasurer. New committees were formed with the following chairmen: O. L. Ludwig, membership; W. H. Hall, music; Mrs. W. O. Johnson, social; Mrs. J. H. Sobey, sick and distress. The officers, with the chairmen of committees, constitute the executive board. The meeting was well attended and considerable enthusiasm was manifested by those present.

PERSONAL.

Lieut-Col. H. F. Hodges returned from his leave in the States on the *Colon*, which arrived at Cristobal on January 23.

Mr. A. S. Zinn, Resident Engineer of the Central Division, accompanied by Mrs. Zinn and their son, returned from his leave in the States on the *Cristobal*, which arrived at Cristobal on January 19.

Passed Assistant Surgeon Herman B. Parker of the United States Public Health and Marine Hospital Service has been detailed for duty as health officer at Guayaquil, Ecuador, relieving Dr. Bolivar J. Lloyd, ordered to Washington.

Notice to Red Cross Members.

Red Cross pins and badges have been received for the year 1910. In order to make them immediately available a supply has been forwarded to each District Quartermaster in the Canal Zone, and members who have already renewed their subscriptions can obtain either the pin or badge on application to the District Quartermaster. Other members can obtain them on tender of the subscription. As it is intended to hold a general meeting early in February, members are requested to hand in their renewals promptly.

Married.

FARMER-CUCKLER—At the Commission chapel, in Cristobal, on January 20, 1910, Minnie L. Cuckler of Athens, O., to Alfred G. Farmer, M. D., of Corozal, Rev. William Morton Cross officiating.

LICHTENBERG-d'AZEZEDO—At Cristobal, on Sunday, January 23, Judge Thomas E. Brown performing the civil ceremony, and at the residence of Mr. C. R. deLeon in Colon, on January 24, the Rev. Mr. Sasso performing the religious ceremony, Erne d'Azezedo to Benjamin Lichtenberg of Gorgona.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Las Cascadas, C. Z., on Sunday, January 30, 1910, at 6 p. m. The program follows:

1 March—*Chicago Tribune*..............Chambers
2 Selection—*The Fair Co-ed*..................Luders
3 Waltz—*Symposia*.........................Bendix
4 { *a* Intermezzo Two Step—*Mollie Lee*......Morse
{ *b—Russian Pony Rag*..................Ramsay
5 Overture—*Concert in F*.................Kalliwoda
6 Mazurka—*La Czarine*.......................Ganne
7 Medley Selection—*Songs of the Day*.......Lampe
Introducing "It Looks Like a Big Night To-night," "Sbine on, Harvest Moon," "When I Marry You," "I Want Some One to Call Me Dearie," "I Used to Be Afraid to Go Home in the Dark," "Golden Arrow," "Dear Heart," "Honeyland," and Finale.
8 Flower Song—*Adoration*.................Barnard
9 Caprice—*Buttercups and Daisies*.....Van Alstyne
10 Galop—*The Races*.........................Barnard

CHAS. E. JENNINGS, *Musical Director*.

A concert will be given at Culebra, Sunday, February 6, at 5.45 p. m.

BASEBALL.

ISTHMIAN LEAGUE.

RESULTS OF GAMES, JANUARY 23.

At Empire—Gorgona, 2; Empire, 0.

At Ancon—Ancon, 9; Marines, 8 (First game); Ancon, 2; Marines, 0 (Second game.)

STANDING OF CLUBS.

	P.	W.	L.	Pc.		P.	W.	L.	Pc.
Gorgona...	9	7	2	.778	Empire....	7	4	3	.571
Ancon......	7	5	2	.714	Marines....	9	0	9	.000

SCHEDULE FOR JANUARY 30:

Ancon at Empire.

Marines-Gorgona at Ancon park.

First game:

Ancon.	R.	H.	PO.	A.	E.	Marines.	R.	H.	PO.	A.	E.
Pearman, 3b..	1	1	3	1	0	Maguire, 1b...	0	1	12	1	0
Nygren, 1b...	0	2	7	1	1	Heinz, cf......	1	0	2	1	0
Keller, lf......	0	0	1	1	3	O'Brien, lf....	3	3	0	0	0
Smith, 2b.....	2	2	3	4	2	Scarff, ss......	3	1	1	1	0
Tinsley, ss....	1	0	2	0	1	Snyder, 2b....	0	0	3	3	6
Yingling, c...	1	1	7	1	1	Burke, rf......	1	1	1	0	0
Hunter, cf....	2	2	1	0	0	Lubomski, c..	0	1	3	0	0
A. Snyder, rf.	2	0	3	0	1	Volman, 3b....	0	1	1	2	0
Lawler, p	0	0	0	2	1	Munsen, p.....	0	1	1	5	0
Total.......	9	8	27	10	10	*Todd.........	0	1	0	0	0
						Total........	8	10	24	13	6

*Batted for Munsen in ninth.

Ancon..................	0	5	2	0	2	0	0	0	x—9
Marines.................	2	0	0	0	0	3	0	0	3—8

Runs earned—Ancon, 1; Marines, 3. Two base hits—Nygren, Smith, Hunter. Stolen bases—Pearman, Smith, Yingling (2), A G. Snyder, O'Brien (2), Scarff, Burke (2). Bases on balls—Off Lawler, 3; off Munsen, 1. Struck out—By Lawler, 6; by Munsen, 3. Hit by pitcher—Heinz, Pearman. Left on bases—Ancon, 5; Marines, 5. Double play—Smith to Nygren. Umpire—Cooling. Time of game—1.45. Scorer—Munroe.

Second game:

Ancon.	R.	H.	PO.	A.	E.	Marines.	R.	H.	PO.	A.	E.
Pearman, 3b..	0	0	2	2	0	Maguire, 1b...	0	0	9	0	1
Tinsley, ss....	0	0	1	1	0	Heinz, cf	0	0	3	0	1
Hunter, cf....	1	1	2	0	0	O'Brien, 2b....	0	0	2	3	1
Smith, 2b ...	0	0	1	3	1	Scarff, ss......	0	0	0	2	0
Keller, lf.....	0	0	1	0	2	Snyder, lf.....	0	0	1	0	0
A. Snyder, rf.	1	1	0	0	0	Burke, rf......	0	1	0	0	0
Nygren, 1b...	0	2	6	2	0	Lubomski, c...	0	0	3	1	0
Frampton, c..	0	0	8	0	0	Volman, 3b....	0	0	0	0	0
Drennan, p...	0	0	0	2	0	Munsen, p....	0	0	0	2	0
Total.......	2	4	21	10	3	Total........	0	1	18	8	3

Ancon..........................	0	0	0	2	0	0	x—2
Marines........................	0	0	0	0	0	0	0—0

Runs earned—Ancon, 2. Stolen base—Hunter. Struck out By Drennan, 7; by Munsen, 2. Left on bases—Ancon, 2; Marines, 2. Umpire—Cooling. Time of game—1.10. Scorer—Munroe.

Empire.	R.	H.	PO.	A.	E.	Gorgona.	R.	H.	PO.	A.	E.
Bryan, 3b.....	0	1	5	2	0	Dougherty,2b.	1	1	5	1	0
Moore, c......	0	2	7	1	0	Magee, lf......	0	0	3	1	0
Dixon, ss.....	0	0	3	2	1	Barney, 1b....	1	0	6	0	0
Bell, 1b.......	0	0	9	2	1	C. Herring, c..	0	2	10	4	0
Christopher, p	0	2	0	1	0	Cole, ss........	0	0	1	3	0
E. Fluh'ty, lf..	0	0	1	0	0	Clements, cf..	0	0	0	0	0
Markley, 2h..	0	0	0	2	3	Emery, 3b	0	0	2	0	1
Herring, rf...	0	1	1	0	1	Holmes, rf....	0	1	0	0	0
Murphy, cf...	0	0	0	0	0	Case, p	0	0	0	2	1
Totals......	0	6	26	10	6	Total........	2	4	27	11	2

Empire..................	0	0	0	0	0	0	0	0	0—0
Gorgona	0	0	0	1	0	0	0	1	0—2

Two base hit—C. Herring. Sacrifice hits—Cole, Fluharty. Stolen bases—Bryan, Clements. Base on balls—Off Christopher, 2; off Case, 1. Struck out—By Christopher, 7; by Case, 9. Hit by pitcher—By Christopher. 1. Left on bases—Empire, 3; Gorgona, 7. Double plays—Herring to Cole; Herring to Dougherty. Umpire—Irwin. Time of game—1.50. Scorer—W. H. Hall.

ATLANTIC LEAGUE.

RESULT OF GAME, JANUARY 23.

Commissary-Subsistence, 7; Civil Administration, 2.

STANDING OF CLUBS.

	P.	W.	L.	Pc.		P.	W.	L	Pc.
Com-Sub...	3	3	0	1000	Civ. Adm..	3	1	2	.250
P. R. R....	2	1	1	.500	Colon	2	0	2	.000

SCHEDULE FOR JANUARY 30.

Colon vs. Panama railroad.

C.-S.	R.	H.	PO.	A.	E.	Civil Admin.	R.	H.	PO.	A.	E.
Smith, ss......	1	1	0	1	0	Bath, 3b......	1	0	1	4	3
McCormick,lf.	2	1	0	0	0	Farrar, cf.....	1	1	1	0	0
Payne, 1b.....	1	2	12	1	2	Edwards, 1b..	0	1	13	1	0
Muggleton, 2b	1	1	1	1	0	Fechtig, c	0	0	5	2	0
Lindberg, cf..	1	1	0	0	0	Horsey, 2b....	0	0	1	1	0
Beard, rf......	0	0	0	1	0	McKeever, ss.	0	0	0	3	1
Reese, rf......	0	0	0	0	0	Johnson, lf...	0	0	2	0	0
Gilmartin, 3b.	0	1	2	1	1	Cooper, rf....	0	0	0	0	1
McCusty, c....	0	0	12	1	0	Russell, p....	0	0	1	5	0
Simmons, p...	1	0	0	7	1	†Rex					
To'al........	7	7	27	13	4	Total.......	2	2	24	16	5

†Batted for Cooper.

Commissary-Subsistence.	0	0	5	0	2	0	0	0	x—7
Civil Administration.....	0	0	1	0	0	1	0	0	0—2

Runs earned—Commissary 2. Two base hit—Muggleton. Home run—Payne. Sacrifice hits—McCusty, Farrar. Stolen bases—Farrar, Edwards, Lindberg. Bases on balls—Off Simmons, 2. Struck out—By Simmons, 11; by Russell, 2. Hit by pitcher—Bath. Left on bases—C.-S., 2; C. A., 6. Passed balls—Fechtig, 2. Umpire—Rohr. Time of game—1.25. Scorer—E. B. Rennard.

Rainfall, January 1 to 22, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Division—	*Ins.*		*Ins.*
Cristobal	1.13	1	2.49
Brazos Brook............	.91	1	3.06
Gatun............	.97	1	3.60
Central Division—			
Bohio............	.68	1	1.88
Tabernilla............	.69	1	1.10
San Pablo............	.38	1	.86
Gorgona............	.50	2	.90
Gamboa............	.30	1	.92
Empire............	.16	5	.52
Camacbo	63	6	1.67
Culebra............	.73	5	1.08
Pacific Division—			
Rio Grande............	.93	5	1.44
Pedro Miguel..	.77	5	1.69
Miraflores............	1.55	3	3.33
Balboa............	.53	5	.86
Ancon..	.80	5	1.10
Atlantic Coast—			
Porto Bello............	4.74	5	12.84
Nombre de Dios (Jan. 1 to 8 inc.)..	2.00	1	6.84
Upper Chagres—			
El Vigia....	.28	6	.48
Alhajuela............	2.27	6	2.84

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, January 24, 1910.

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft..	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Jan. 16......	127.7	94.9	48.6	7.2	2.0	2.0
Monday, Jan. .17...	129.3	95.7	49.4	8.0	2.1	2.0
Tuesday, Jan. 18....	128.2	95.2	49.0	8.0	2.7	2.1
Wed'esday, Jan. 19	128.4	95.2	48.9	7.2	2.4	2.0
Thursday, Jan. 20..	128.4	95.3	48.9	7.2	2.5	1.9
Friday, Jan. 21.....	128.7	95.4	49.2	7.7	2.6	2.2
Saturday, Jan. 22...	128.0	95.0	48.9	7.4	2.5	2.2

Proposals for Type-14 Houses at Gatun.

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra C. Z., until 3 p. m., February 4, 1910, and then opened, for the erection by contract of six (6) type-14 houses at Gatun. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $500 when the contract is signed. C. A DEVOL, *Chief Quartermaster.*

Proposals for Stable and Other Buildings at Ancon.

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, C. Z., until 3 p. m., February 11, 1910, and then opened, for the erection by contract of a stable building, a hospital stable, a wagon and cart shed and a carriage shed at Ancon. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $300 when the contract is signed. C. A. DEVOL, *Chief Quartermaster.*

Proposals for Type-18 House and Barrack at Porto Bello.

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., February 1, 1910, and then opened, for the erection by contract of a type-18 house, and a standard laborers barrack No. 2, at Porto Bello. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal, and $200 when the contract is signed.

C. A. DEVOL, *Chief Quartermaster.*

Proposals for Type-20 House at Porto Bello.

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, C. Z., until 3 p. m., February 7, 1910, and then opened, for the erection by contract of a type-20 house at Porto Bello. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $200 when the contract is signed. C. A. DEVOL, *Chief Quartermaster,*

OFFICIAL CIRCULARS.

Pay for Overtime Work.

PANAMA RAILROAD COMPANY,
COLON, R. P., January 21, 1910.

CIRCULAR NO. 11:

Effective February 1, 1910, all hourly employes who are citizens of the United States will be paid time and one-half for work over the eight-hour day; all other hourly employes will be paid time and one-half for work over ten hours in one day. All hourly employes will be paid time and one-half for all work on Sundays and holidays.

Attention is called to the fact that the length of the working day for mechanics and laborers, as now established by the United States Statutes, is not changed by the above. It is merely intended that when alien mechanics are required to perform emergency work after the close of the eight-hour day, they shall be paid straight time until they have worked ten hours; and that laborers, when required to work more than nine hours per day, shall not be paid time and one-half until after ten hours' work.

J. A. SMITH, *General Superintendent.*

Passengers Without Tickets Must Pay Ten Cents Extra.

PANAMA RAILROAD COMPANY,
COLON, R. P., January 25, 1910.

After January 31, 1910, all passengers failing to provide themselves with tickets at regularly established ticket stations, will be charged 10 cents gold in addition to the regular rate, which amount (10 cents gold) will not be refunded.

J. A. SMITH, *General Superintendent.*

Freight Rates for Employes.

PANAMA RAILROAD COMPANY.
COLON, R. P., December 27, 1909.

Effective January 1, 1910, employes of the Isthmian Canal Commission and Panama Railroad Company will be granted the following freight rates over the Panama Railroad, when properly authorized:

Household goods, personal effects, etc., $2.25 per ton.

Live stock, one-half regular tariff rate.

NOTE—If request is made for an entire car, charge will be made on basis of minimum carload, regardless of contents.

J. A. SMITH, *General Superintendent.*

P. R. R. Quarters, Colon.

COLON, R. P., January 21, 1910.

TO ALL HEADS OF DEPARTMENTS:

Effective January 29, 1910, Mr. X. W. Culbertson, is appointed clerk in the department of hotels and bachelor quarters, for temporary duty during the the absence of the superintendent of the department on leave. He is authorized to sign the superintendent's name to pay rolls, invoices, vouchers and all such documents as the exigency of the service demands.

PIERCE T. MURPHY,
Superintendent, H. and B. Q.

Approved: J. A. SMITH,
General Superintendent.

Auction Sale of Public Property.

There will be sold at public auction to the highest bidder for cash, at Mount Hope Depot, on Friday, January 28, 1910, at 3 p. m., the following described public property which is no longer required in the service.

Three hundred and forty-two wash stands (more or less), filing boxes, chairs, tables, desks, etc.

Sales will be made in such quantities as are desired by the bidder and possession of property given at the storehouse. A cash deposit of at least 25 per cent of the bill will be required from the successful bidder at the time of sale, and full payment will be necessary before the property is removed. Property not paid for in full and removed within 48 hours after the sale will be considered as abandoned by the bidder and the deposit forfeited.

The Government reserves the right to reject any or all bids.

The above property may be seen and examined at Mount Hope Depot any week day between the hours of 8 and 11 a. m., and 1 and 5 p. m.

C. NIXON, *Depot Quartermaster.*

The following vessels arrived at or departed from Balboa during the week ending January 22:

Arrivals—January 18, *Newport*, from San Francisco; January 20, *Peru*, from south ports; January 21, *Chiriqui*, from intermediate ports; *Ecuador*, from Guayaquil, and *Arethusa* (U. S. supply ship), from unknown port.

Departures—January 16, *Limari*, for south ports; January 18, *Arica*, for Guayaquil; January 19, *Quito*, for intermediate ports; January 20, *Peru*, for San Francisco.

LOST—Gold watch fob with monogram locket attached. Initials on locket "J. O. W." Reward if returned to House 134-D, Gorgona, C. Z.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

In the indoor baseball league game played last Saturday night, Culebra won from Cristobal by a score of 14 to 3.

The billiard and pool tournaments began last Monday. Fifteen men have entered the pool tournament and eight men the billiard tournament.

Plans are being made for a duck pin bowling tournament to start February 1. Ten men have entered up to date, but there is still room for a few more.

Messrs. DePorter and Dalton of Gatun gave some exhibitions of pool playing at the clubhouse last Saturday night, Mr. Reeves of Culebra played a fifty-point game with Mr. DePorter, winning by two points Mr. Stevens of Culebra played a 100-point game with Mr. Dalton, losing by two points. Mr. DePorter won from Mr. Vogel of Culebra, with a score of 100 to 75.

The moving picture entertainment given at the clubhouse on Tuesday night of this week was appreciated by a good-sized audience.

Judge Thomas H. Brown of Cristobal gave the address at the Sunday night service in the clubhouse last Sunday evening. A mixed quartet composed of Mrs. Derrick, Mrs. Freeman, Mr. Case and Mr. Kramer, rendered special music. At the close of the service, Rev. A. A. Nellis, newly appointed chaplain at Culebra, who arrived on the *Colon* that day, made a few remarks to the audience. Rev. Mr. Nellis will hold services every Sunday evening at the I. C. C. chapel.

EMPIRE.

One of the features of the camera club is the weekly picture exhibit begun last week. A vote is cast for the best picture and the one receiving the highest number of votes will be hung as a mark of honor, the owner to have the privilege of taking his choice of any one of the other pictures submitted. At the last meeting the pictures of U. L. Upson and F. W. Miracle received an equal number of votes and both will be displayed, although hereafter, but one picture may be hung. The camera club has excellent plans for the present season. Mr. Cassidy and Mr. Needham were received into membership last week. Mr. H. H. McAnelly has been elected secretary.

Educational Courses at Empire—All members desiring to improve their leisure to good advantage during the next few months are requested to see the secretary at once if interested in the following, beginning January 31: Spanish course, Monday nights, teacher, Miss Frost, who is thoroughly familiar with the subject. Civil service English, or English reading course, Tuesday nights. Miss Annis. Isthmian history, or American history, Friday nights, Carl Carr, school principal, Cristobal.

In order that there may be no delay in beginning these classes, persons intending to enter are requested to call at once at the office.

The placing of the anthropometrical apparatus in service has created great interest. The spirometer has proved an attraction worth while. The dynamometer, with which the lifting capacity may be tested, has resulted in the establishing of two records—H. W. Hartman in a single lift registering 1,010 pounds and E. M. Austin in total pounds lifted in successive lifts in one minute registered 11,005 pounds, averaging 582 pounds.

Empire defeated Cristobal in three games at duck pins last Saturday night on the Empire alleys, as follows:

Empire.	*1st.*	*2d.*	*3d.*
Potter	89	103	85
Fishhaugh	95	100	83
Herring	83	86	88
Gorham	93	89	97
Gustavson	95	81	96
Total	455	459	449

Cristobal.	*1st.*	*2d.*	*3d.*
Barrett	87	101	79
Hess	67	...	...
Gibson	...	83	65
DeCora	90	79	79
Louch	78	83	80
Fredericks	85	102	108
Total	407	448	411

In last week's CANAL RECORD the statement that Mr. Fredericks had established a new duck pin record of 136 should read that he tied the two previous marks of 136, made by Mr. Hickley, now of Gorgona, and Mr. Euerle of Empire.

The five high men in the local duck pin tournament are:

	Games ployed.	*Average.*
Potter	28	93.5
Gustavson	23	89.2
Herring	23	89.1
Shaughnessy	22	88.4
Fisbbaugh	27	88

The first three in games won and lost are:

	Won.	*Lost.*
Cohen	19	5
Potter	19	6
Fishbaugh	17	7

Plans are being made for a "smoker" to be held at Empire clubhouse on Friday night of this week, to which all men are invited. The funds left over from the Christmas celebration were voted for this purpose by the committee.

GORGONA.

There was a bowling contest between Gatun and Gorgona on Friday night, January 15, Gorgona winning two out of three games.

The game room was opened for use last Saturday night after being closed for painting.

The Wednesday night Bible class held a session on January 19, in the secretary's room. All interested in Bible study are invited to attend on Wednesday nights at 7 p. m. This organization will assist Mr. Drum in his work on his arrival on the Isthmus.

The rubber roller skates have arrived and roller skating will be permitted from 8 to 10 p. m., Mondays and Wednesdays. Skating will not be permitted outside of hall, or on verandas. Ladies' days are Tuesdays and Thursdays from 2 to 4 p. m., and Wednesdays, from 8 to 10 p. m. Fast skating will not be allowed, and skaters are requested to put their skates on in the hall. Persons violating these rules will be asked to stop skating. The floor will be in charge of an expert skater each evening to assist and act as floor manager.

GENERAL NOTES.

The standing of the Interassociation Indoor Baseball League is as follows:

	Played.	*Won.*	*Lost.*	*Per Cent*
Culebra	3	3	0	1000
Empire	2	0	2	0000
Gorgona	2	2	0	1000
Cristobal	3	0	3	0000

Mr. Charles R. Drum, International Secretary of the Y. M. C. A., will pay a visit to the associations of the Canal Zone early in February. A detailed program of Mr. Drum's plans will be published at a later date.

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal and Colon, during the week ending January 22, 1910, with supplies for the Isthmian Canal Commission:

Thames, January 16, from New York, with 70 snatch blocks for Atlantic Division; 144 brooms for Pacific Division.

Allianca, January 16, from New York, with 28 tons castings for car repairs; 2 air compressors for electrical engineer and master mechanic; 13 tons chain for Central and Pacific Divisions; 6 valves, and 42 tons structural material for locks; 8 tons castings for steam shovel repairs; 76 tons steel forms, etc., for Pacific Division; 100 split switches, 66 track frogs, 250 wicker rockers, 5,000 shovels, 50 coils rope, 288,000 feet triple tape fuse, 1,000 lanterns, 18 tons nuts, 315 kegs track bolts, 16,000 angle bars and 450 kegs wire nails for stock; and a miscellaneous cargo aggregating 8,207 packages, weighing 802 tons.

St Andrews, January 18, from New York, with 4,000 angle bars, 380 kegs wire nails, 100 reels barbed wire, 94 tons steel pipe, 89 tons steel plates and 1,000 tons steel rail for stock; 2 tons steel tubing for Gorgona shops; 873 tons material for hydraulic dredging plant for Pacific Division.

Almerian, January 18, from Liverpool, with 145 barrels carbolic acid for manufacture of larvacide.

Cristobal, January 19, from New York, with 48,000 bags and 12,181 barrels cement for Atlantic Division; 1,000 gallons transit oil for electrical engineer; 24 tons structural steel for handling plant for Pacific Division; 24,800 electric fuses, 3,000 gallons lard oil, 30 tons chain and 24 tons wrought iron pipe for stock.

Sibiria, January 18, from New York, with a miscellaneous cargo consisting of 250 packages, weighing 17 tons.

Atenas, January 20, from New Orleans, with 32,000 fire-brick, 20 push cars, 15,000 pounds lubricating grease and 10,000 feet lumber for stock; 4 tons castings for steam shovels; 2 concrete mixers for Pacific Division; 40 bundles shingles and 31 creosoted piles for Atlantic Division.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending February 2, 1910 (75th meridian time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	P. M.	P. M.	P. M.
January 27	5.05	11.18	5.32	11.42	....
		NOON.			
January 28	5.47	12.00	6.10	....	....
		A. M.	A. M.		
January 28	....	12.23	6.26	12.40	6.48
January 29	....	1.03	7.03	1.18	7.24
January 30	....	1.42	7.39	1.57	8.02
February 1	....	2.24	8.15	2.35	8.37
February 2	....	3.07	8.53	3.20	9.15

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Advance	P. R. R.	Saturday	Jan. 22
Panama	P. R. R.	Friday	Jan. 28
Allianca	P. R. R.	Thursday	Feb. 3
Colon	P. R. R.	Thursday	Feb. 10
Advance	P. R. R.	Wednesday	Feb. 16
Panama	P. R. R.	Wednesday	Feb. 23
Allianca	P. R. R.	Tuesday	Mar. 1
Colon	P. R. R.	Monday	Mar. 7
Advance	P. R. R.	Saturday	Mar. 12
Panama	P. R. R	Friday	Mar. 18
Allianca	P. R. R.	Thursday	Mar. 24
Colon	P. R. R.	Thursday	Mar. 31

CRISTOBAL TO NEW YORK.

Colon	P. R. R.	Friday	Jan. 28
Cristobal	P. R. R.	Saturday	Jan. 29
Advance	P. R. R.	Thursday	Feb. 3
Panama	P. R. R.	Wednesday	Feb. 9
Allianca	P. R. R.	Tuesday	Feb. 15
Colon	P. R. R.	Tuesday	Feb. 22
Advance	P. R. R.	Monday	Feb. 28
Panama	P. R. R.	Monday	Mar. 7
Allianca	P. R. R.	Sunday	Mar. 13
Colon	P. R. R.	Saturday	Mar. 19
Advance	P. R R	Friday	Mar. 25
Panama	P. R. R.	Thursday	Mar. 31
Allianca	P. R. R.	Wednesday	Apr. 6
Colon	P. R. R.	Tuesday	Apr. 12

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

NEW YORK TO COLON.

Turrialba	U.F.C.	Thursday	Jan. 20
Thames	R.-M.	Saturday	Jan. 22
Metapan	U.F.C.	Thursday	Jan. 27
Prinz Joachim	H.-A.	Saturday	Jan. 29
Zacapa	U.F.C.	Thursday	Feb. 3
Atrato	R.-M.	Saturday	Feb. 5
Almirante	U.F.C.	Thursday	Feb. 10
Prinz Aug. Wilhelm	H.-A.	Saturday	Feb. 12
Santa Maria	U.F C.	Thursday	Feb. 17
Tagus	R.-M.	Saturday	Feb. 19
Metapan	U F.C.	Thursday	Feb. 24
Prinz Joachim	H -A.	Saturday	Feb. 26
Zacapa	U.F.C.	Thursday	Mar. 3
Oruba	R.-M.	Saturday	Mar. 5

COLON TO NEW YORK.

Atrato	R.-M.	Wednesday	Jan. 26
Turrialba	U.F.C.	Saturday	Jan. 29
Prinz Aug. Wilhelm	H.-A.	Tuesday	Feb. 1
Metapan	U.F.C.	Saturday	Feb. 5
Tagus	R.-M.	Wednesday	Feb. 9
Zacapa	U.F.C.	Saturday	Feb. 12
Prinz Joachim	H.-A.	Tuesday	Feb. 15
Almirante	U.F.C.	Saturday	Feb. 19
Oruba	R.-M.	Wednesday	Feb. 23
Santa Maria	U.F.C.	Saturday	Feb. 26
Prinz Aug. Wilhelm	H.-A.	Tuesday	Mar. 1

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

NEW ORLEANS TO COLON.

Cartago	U.F.C.	Saturday	Jan. 22
Abangarez	U.F.C.	Saturday	Jan. 29
Atenas	U.F.C.	Saturday	Feb. 5
Turrialba	U.F.C.	Saturday	Feb. 12

COLON TO NEW ORLEANS.

Cartago	U.F.C.	Tuesday	Feb. 1
Abangarez	U.F.C.	Tuesday	Feb. 8
Atenas	U.F.C.	Tuesday	Feb. 15
Turrialba	U F.C.	Tuesday	Feb. 22

COLON TO BARBADOS, CALLING AT TRINIDAD.

Clyde	R.-M.	Tuesday	Feb. 1

A ship of the United Fruit Company's line sails from the dock at Colon, at 3 p. m., Tuesday of each week.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Mexican* for New Orleans, via Kingston, Ja., on or about February 7.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, FEBRUARY 2, 1910. No. 23.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

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Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Naos Island Breakwater.

Since the break in the trestle of the Naos Island breakwater was repaired last September, about 19,000 cubic yards of spoil from Culebra Cut have been dumped there, and the fill grows steadily toward the island. Another dump has been opened off the shore at Balboa, running out from the breakwater, and the trestle is now turning toward the breakwater, so that this dump may be joined to it. A gap of a little less than a mile remains to be closed between the end of the breakwater and Naos Island.

Additions to Compressed Air Plants.

The air compressors ordered for the plants at Rio Grande and Empire have arrived and are being installed, one at each plant. They are of the 10-2 Imperial Ingersoll-Rand class, identical with the six Rand compressors that have been in use at Las Cascadas, Empire, and Rio Grande, and are of the duplex, steam compound type, with 18-inch steam cylinder, 29-inch low and 18-inch high pressure air cylinders, stroke 24 inches; with steam at 125 pounds pressure, compressing air to 100 pounds pressure; capacity, 2,500 cubic feet of free air a minute at 140 revolutions per minute; indicated horse power 435. In addition to the two compressors now being installed, a compressor is on order for Gorgona shops. It will displace six duplex locomotive compressors, and one other small compressor now in use there, adding both to the economy and effectiveness of the plant.

Spillway of Gatun Dam.

Two steam shovels are excavating in the site of the concrete dam that will extend across the Spillway of Gatun Dam. As soon as this excavation is completed the amount of concrete laid each day will be increased from about 150 cubic yards to 600 cubic yards, and this rate will be maintained, in order that all the concrete, which it is necessary to lay before the water may be turned through the channel, may be placed by the 1st of April. It is proposed to fill the West Diversion, through which the Chagres River now flows, about the first week in April, and as soon as it is closed the river will begin to flow through the Spillway. About 20,000 cubic yards of concrete must be laid before the river may be turned through the Spillway.

Razing of La Folie Dingler.

In order that Ancon quarry may be extended in the direction of the Balboa road, it will be necessary to tear down the house formerly used as a quarantine detention station, popularly known as La Folie Dingler. It has been determined to ask for bids for the house as it stands, with the understanding that the purchaser must tear it down and remove it.

When the house was erected the French Company had no regular division of building construction, or architect, on the Isthmus, and the price paid was greater than the construction and arrangement of the building warranted. It was built for the director general of canal works, Jules Dingler, and was ready for occupancy in the summer of 1885. On January 2, 1885, Dingler's wife died of yellow fever, and prior to that time a son and daughter had also died of the same disease. On this account Dingler returned to Paris in June, 1885, never having occupied the house.

The site on the slope of Ancon Hill, looking over Panama Bay and the islands of Naos, Perico, Flamenco, and Culebra, with Taboga in the distance, is a beautiful one, but the house was not accessible to the main part of the canal work, and on this account, coupled with the excessive cost, it was called La Folie Dingler. On the French maps, it appears as San Lazaro, the name of the estate on which it was built. After it was abandoned by the French, it was used as a smallpox isolation house, and as a barrack for Colombian soldiers, until the arrival of the Americans, when it was repaired and placed at the disposal of the quarantine service.

The Commission type house near La Folie Dingler, occupied by the receiving and forwarding agent of the Panama railroad at Balboa, will also be torn down, but it will be erected again a few hundred yards away.

Excavation at Mamei and Caimito.

Two steam shovels are at work in the Canal prism at Mamei, removing the earth along the Chagres River that rises above the bottom of the channel, which is to be 40 feet above sea level. During the rainy season, these shovels were under water several times, and the work was greatly hampered at other times by the water soaked condition of the material that the shovels were handling. At present, the excavation is confined to the left bank of the river, where the greatest height of land above elevation 40 is about 25 feet, and the total amount be taken out is about 323,000 cubic yards. Some difficulty is being experienced in sending the shovels across the channel of an old diversion made by the French, but this grows less as the material dries out. A small island in the river containing about 400 cubic yards of earth will be taken out by hand, and the right bank, containing about 183,000 cubic yards, within the prism, will probably be excavated by steam shovel. It is expected that the excavation at Mamei will be completed by the close of the dry season. Within sight of the steam shovels at Mamei, scraper gangs are completing the work in the channel at Caimito.

Electrical Supplies and Eucalyptus Lumber.

A requisition has been forwarded for $27,000 worth of electrical supplies for the balance of the fiscal year, and a similar requisition for the fiscal year 1911 is in preparation. Miscellaneous electrical supplies for all divisions of the Canal work are included in these requisitions.

A requisition has been placed for a small amount of eucalyptus piling and lumber, in order that a test may be made in accordance with the request of the Department of Agriculture.

Pacific Division Operations.

One chamber crane at the Pedro Miguel Locks has been completed, and another is well under way. Crane No. 1 is undergoing a test this week, and as soon as it is in complete working order, and the runway for it is laid over the lock floor, it will be placed in commission. A wooden trestle, extending through the center of the west chamber, is under construction. It will lead to the level of the north forebay floor, with a grade of 2½ feet in 100 feet, and will support narrow gage tracks, over which the Porter engines will run with their trains carrying concrete and other material from the forebay into the lock pit.

A little to the south of the crane work, operations are in progress on a section of the side wall into which will be built the longitudinal culvert designed to supply water to the cross culverts, which will in turn, fill the lock chamber. The cross culverts in this section were completed a few weeks ago, and preparations were at once begun for the construction of joints and elbows to connect the cross culverts with the side wall culvert. This involves a continuation of the cross culverts to a point where the elbows join on and extend upward to meet the side wall culvert. In the horizontal section of the culvert, the collapsible steel forms used in the construction of the cross culverts, are employed, but in building the elbows, it has been necessary to construct special forms of wood. A large amount of care and labor is involved in the making of these forms, composed, as they are, of hundred of small

NOTES OF PROGRESS.

(*Continued.*)

strips cut from 1-inch pine boards, closely matched, and with the exterior surface smoothed to a nicety to prevent the concrete from clinging to it, when the forms are removed. They have a lily-shaped opening, 18 feet in circumference. One was in place at the close of work last week, ready for the concrete, and a second is now nearly completed. It is expected that six will be sufficient to keep the work going. With the installation of the side wall connections, the side wall culvert will be built, after which the side wall, having a width of 45 feet at the base, can be continued upward as desired. Work is also in progress on the intermediate gate chamber and sill.

At the south end of the locks, operations on the center guide wall have reached elevation 35, which is 31 feet less than its ultimate height. The length now under construction is 1,000 feet.

In the east chamber, steam shovels are excavating to the required depth for the side wall. Work on the excavation for the cross culverts in this section is making headway, and two derricks have been erected to handle the spoil buckets. These derricks will be used later in distributing concrete.

The 50,000 cubic yard mark in the concrete construction at the locks was passed on Saturday, January 29, and at the close of work on that date, the grand total amounted to 50,367½ cubic yards. A new high record for a single day's output at this point was established on Thursday, January 27, when 863 cubic yards were laid, as compared with 857 cubic yards, the previous best record. The output for each of the six 8-hour working days of the week ending January 29, was as follows:

	Cubic Yards.
January 24	553½
January 25	776
January 26	747½
January 27	863
January 28	616
January 29	601½
Total	4,157½
Daily average	693

The record from the beginning of work on September 1, 1909, to January 29, 1910, inclusive, is as follows:

	Cubic Yards.
September	2,369½
October	8,396¼
November	10,080½
December	13,148½
January 1 to 8 (6 days)	4,322¾
January 10 to 15, inclusive	4,334
January 17 to 22, inclusive	3,558½
January 23 to 29, inclusive	4,157½
Total	50,367½

The main floor of the Miraflores Locks is within a foot of grade. The remaining foot of material will not be excavated at present, because it will be some time before concrete operations at this point are begun, and much of the rock in the lock floor is of a character which disintegrates upon exposure to the elements. Shortly before concreting is commenced here, the top covering will be removed leaving firm rock. Three steam shovels are still at work in the locks, all engaged in the east chamber, with two excavating for the side wall. Channeling machines are also engaged on the cross culvert system in the north end.

In the territory to be covered by the hydraulic operations, tracks are being laid; the foundations and ways for the construction and launching of five concrete barges are being placed, and the building of the foundations of the hydraulic pumping station is in progress. Two tracks will lead to the site of the hydraulic operations, one of which branches off from the sand track on the east side of the Miraflores lock site, and crosses the Rio Grande on a trestle, while the other extends along the west side of the locks and will join the other track near the west end of the trestle. From the trestle, south to the pumping station, the track crosses low swampy ground, and to support it, ties are placed on a network of brush, forming a kind of corduroy railroad. The concrete barge site and ways are located a few hundred yards south of the Miraflores Locks, on the west bank of the basin excavated some time ago by the suction dredge *Sandpiper*.

Building Gatun Locks.

The first monolith in the east wall of Gatun Locks was completed last week, and work is in progress on two more. Three forms for the center wall monoliths are in process of erection. The sill of the emergency dam in the chamber of the west lock is completed, and the sill in the east chamber is about three-fourths finished.

Excavation in the forebay of the locks is finished, and the floor in the forebay is almost completed. In the second locks, one of the steam shovels, excavating for the foundations, is at grade, 18 feet below sea level.

The amount of concrete placed in the locks during the week ending January 29, was 14,165 cubic yards, the greatest amount that has been placed in any week since the work was begun. On January 25th, 2,764 cubic yards were placed, the largest amount placed in one day up to that time. The record by days follows:

	Cubic Yards.
January 24	2,258
January 25	2,764
January 26	2,392
January 27	2,128
January 28	2,025
January 29	2,598
Total	14,165

The record by months follows:

	Amount—Cu. yds.	Average per day—Cu. yds.
August (seven days)	1,298	185
September (26 days)	12,294	473
October (31 days)	29,378	948
November (24 days)	30,270	1,261
December (26 days)	42,832	1,647
January 1 to 8 (6 days)	11,065	1,844
January 10 to 15 (6 days)	12,480	2,080
January 17 to 22 (6 days)	12,943	2,157
January 24 to 29 (6 days)	14,165	2,361
Total	166,825	1,209

There were also laid in the Spillway of Gatun Dam during the week ending January 29th, 418 cubic yards of concrete.

Panama Sanitary Improvements.

The work of improving certain sections of the city of Panama, to bring them within the requirements of the Department of Sanitation, which was begun by the municipal engineering forces of the Pacific Division on December 6, is now in progress in most of the districts covered by the plans and estimates. The laying of sewers and water mains in the Cocoa Grove district was begun on Tuesday, January 25, on the Calle de la Paz and the Calle de la Victoria, the first of these streets extending along the east side of the city cemetery, from the Balboa road to the sea beach, and the second, extending in the same direction one block east. Work in the suburb of Santa Cruz, east of the Panama railroad, opposite Pueblo Nuevo, was begun on Thursday, January 27, and is also under way on Nineteenth, Twentieth and Twenty-first streets, between Avenue B and Central Avenue. In all these localities water and sewer pipes are being laid, to be followed later with the grading, curbing and macadamizing of the streets. Private improvements are following rapidly in the wake of the public work in Guachapali and Santa Cruz, and upward of 100 houses have been erected, or are in course of construction, in these two districts.

Cars for Colon Breakwater.

Fifty additional air dump, steel cars of 19 cubic yards capacity have been ordered from the William J. Oliver Manufacturing Company of Knoxville, Tenn. This will make the total number of 19-yard cars on order, 300. The additional fifty are to be used in the construction of the Colon breakwater.

Canal Fortifications Board.

According to the *Army and Navy Journal* of January 22, "The President and Secretary of War have decided that, in view of the fact that Major Gen. Leonard Wood is to become chief of staff in April, and will have before him from time to time many important questions connected with the fortification and defense of the Panama Canal Zone, he should be placed at the head of the board of officers that will this winter make a special study of the ground and report a general plan for the protection of the Canal from attack in time of war, or from injury or destruction by the insane or maliciously disposed in time of peace. The problem is one of no inconsiderable magnitude. The board that has been named already by the Secretary of War consists of General Crozier, chief of ordnance; General Bliss, assistant chief of staff; General Murray, chief of coast artillery; General Wotherspoon, and General Marshall, chief of engineers; with Commander Harry F. Knapp, U. S. N., and Commander William J. Maxwell, U. S. N., named by the Secretary of the Navy."

Present advices with regard to the movements of the board are that General Wotherspoon, and Commanders Knapp and Maxwell, together with Maj. William G. Haan of the coast artillery, who will act as recorder, will come to the Isthmus on the *Cristobal*, due at Cristobal during the third week in February, and that the other members will arrive on the *Ancon*, due the last week in February. If the *Ancon* remains at Cristobal ten days, or more, the board will probably return to the States on that vessel early in March.

Crushed Rock Output at Porto Bello.

Rock was crushed at Porto Bello during the week ending January 29 in the following amounts:

	Cubic Yards.
January 24	2,689
January 25	2,470
January 26	2,485
January 27	2,341
January 28	2,704
January 29	2,865
Total	15,554

Diablo Hill, the settlement between Corozal and Panama, has been made a flag station by the Panama railroad. Twelve apartments at this point are occupied by gold employes, the number of people residing there being about forty.

COLON IMPROVEMENTS.

Work Started on D Street Sewer—Estimates of Cost, and Material Required, for the Various Projects.

Work has been begun on the construction of a trunk sewer through D street in Colon, and authority has been issued for the expenditure of the money necessary to macadamize Fourteenth street from Cash alley to D street, extend the water and sewer systems along Hudson lane and on the lateral streets between that lane and D street.

Colon is built on a coral island, and is a mile long from north to south, and half a mile wide. Only that half of the city comprised between the water front and a highway running the length of the place, known as D street, is in sanitary condition. The city is growing rapidly. The improvements authorized form part of a general plan to place the remainder of the town site in sanitary condition by raising its elevation to a minimum height of two feet above sea level, installing drainage, sewer, and water systems, and paving the streets with macadam. The total cost of this work is estimated at over one million dollars, about equally chargeable to a Congressional appropriation, which will be reimbursed by the city, and to private landholders, which in this case are represented by the Panama Railroad Company. General street improvements will be paid for out of the Congressional appropriation; filling done on private property abutting on streets to be improved, by the property holder; filling and street improvements on land owned by the railroad company and improved at its direction, by the railroad. The estimates are as follows:

General street improvements	$516,708.34
Filling of private lots	251,970.50
Filling of P. R. R. land, and street improvements	310,581.75
Total	$1,079,260.59

That part of the project which contemplated the improvement of the beach road has been disapproved and will not be undertaken.

The work already authorized is such as can be carried on independently of the filling that will raise the elevation of the streets. Hudson lane is immediately east, or back, of D street and runs parallel to it. The extension of the water and sewer systems along this lane, and between it and D street, will involve the laying of mains, not only on Hudson lane, but also in the 14 lateral streets connecting it with D street. This is only a part of the general street improvements which will include the streets running north and south, known as D street, Hudson lane, E and G streets; an alley running north and south between the latter two; all the intersecting streets, from First street on the north to Fourteenth street on the south, and the alleys running between and parallel with them. The principal items in this work are as follows:

D street storm sewer, 20,585 feet of sewers; 2,637 feet of force main; 22,196 feet of water main; 7,400 feet of street drains; 72,200 square yards of macadam, requiring 24,000 cubic yards of crushed rock; 47,100 feet of concrete curb and gutter; 500 square yards of sidewalks; 302,893 cubic yards of fill by the hydraulic method, and 7,100 square yards of concrete paving in alleys.

The D street storm sewer will be of concrete reinforced with old French rail. An order is being filled at Gorgona foundry for 180 feet of collapsible steel forms, each piece ten feet long, circular at the bottom and rectangular at the top, with the diameter varying from 5 feet to 7 feet 10 inches, representing the difference in the size of the sewer at the summit, and at its outlet. The chief items entering into the construction are 18,000 cubic yards of excavation, 6,493 cubic yards of concrete, and 5,000 cubic yards of backfilling. The total length will be 6,800 feet and the capacity will be sufficient to carry off the water that now collects in the streets during heavy rains.

The hydraulic fill will not be begun until June, when the 18-inch suction dredge recently ordered will be ready for that service. The total fill to be made is 1,406,893 cubic yards, divided among the following items: Street improvements, 302,893 cubic yards; private lots on streets to be improved, 504,000 cubic yards; Panama railroad addition, 600,000 cubic yards. It is estimated that this work will be done at the rate of fifty thousand cubic yards a month.

Death of Jackson Smith.

A cable message received from Portland, Ore., on January 28, announced the death in that city from heart failure, following malarial fever, of Jackson Smith, formerly a member of the Isthmian Canal Commission. Mr. Smith was born in South Carolina, and was 46 years of age. When a young man he entered the service of the Louisville and Nashville railroad and worked for that company at Knoxville and Cincinnati. Later, he went to Ecuador and worked for the Guayaquil and Quito railroad, and afterwards went to Mexico, where he entered the service of the Mexican National railroad. In Ecuador, Jamaica, and Mexico he gained experience in recruiting and handling tropical laborers and this fact recommended him to John F. Wallace, when the latter was Chief Engineer of the Canal, as a man who would be valuable in solving the labor problem on the Isthmus. He entered the service of the Isthmian Canal Commission on July 18, 1905, as Assistant to the Chief Engineer, and shortly after his arrival on the Isthmus, he was made manager of the branch of labor and quarters. On November 19, 1906, he was made head of the Department of Labor, Quarters, and Subsistence, and in March, 1907, he was appointed a member of the Commission. On June 1, 1908, he resigned from the Commission, the resignation taking effect on September 15. On September 19, 1909, he was appointed vice-president and general manager of the Oregon Direct Line railroad, with headquarters at Portland, where he resided at the time of his death.

School Gardening.

The garden opened in connection with the public school for colored children at Empire has the appearance of one in the States in the spring, the peas, beans, cucumbers, corn, tomatoes, and okra having all sent their shoots through the ground. The pupils are provided with the most improved implements and are intensely interested, the practical, manual work appearing to make a great appeal to them. There are thirty children doing the school gardening at Empire. Each is assigned tools for which he is accountable, and a plot 12 by 20 feet in which he plants the smaller garden stuffs. In addition, each is assigned from one to three rows of corn, peas, okra, and other vegetables that must be cultivated by themselves. Bananas and papayas will be planted at Empire during the present month. A supply of seeds has arrived from the States and all the gardens will be planted to their capacity within a few days.

Police Activities in December.

Six hundred and sixteen arrests were made in the Canal Zone during the month of December, 1909, as compared with 464 for the preceding month, and 507 for December, 1908. Five arrests were made for carrying firearms without a license; two for hunting at night; one for violation of the quarantine regulations; one for violating the lottery laws, and three for violating the contract labor laws.

The total effective police force at the end of December numbered 251 officers and men, an increase of one for the month. The men on special duty numbered 82, an increase of 13. Thirty-three officers and men assigned to special duty were on guard at the penitentiary and convict labor camp. The pay rolls for the month amounted to $20,485.82.

Sixty-one criminal cases were tried in the circuit courts, seven of which were dismissed, 20 continued, and 34 in which convictions were secured. Eighteen civil cases were brought to trial, and the sum of $3,190.54 was collected by the marshal in executions.

The Zone convicts numbered 112 on November 30; received during the month, 11; discharged, 12; total serving sentence on December 31st, 111. The number of district prisoners on the same date was 166. The prison pay rolls for the month amounted to $1,729.92; cost of prisoners' subsistence, $824.75; value of clothing and other property issued, $500.47, a total expense of $3,055.14. The value of the work performed by prisoners on the Empire-Paraiso, and the West Culebra roads, was $1,696.40, and the total number of hours worked was 16,964.

There were eleven deaths from violence during December, requiring action by the coroner. Four of these were due to drowning, and one was a case of homicide. Eight deportations were made, two to the United States, one to Jamaica, three to Barbados, one to St. Kitts, and one to Portugal.

Examination for Mate.

THE CANAL RECORD:

There will be an examination held for the grade of mate on steam vessels throughout the Zone on Saturday, February 12. All interested in this examination are requested to forward their applications for licenses before the 5th instant. The examination will be held at the office of the Board of Local Inspectors, old Administration building, Panama.

All correspondence to the Board of Local Inspectors should be addressed "The Board of Local Inspectors, Old Administration Building, Ancon, Canal Zone."

Very respectfully,

W. G. COMBER,

Chairman, Board Local Inspectors.

Ancon, February 1, 1910.

A 12-foot concrete walk has been laid around the inside of the children's playground at Colon for the use of those who indulge in the pastime of roller skating.

YELLOW FEVER.

Discovery of the Mosquito Theory—Methods of Controlling and Suppressing the Disease.

There has been no infection from the case of yellow fever in Panama, reported in last week's CANAL RECORD, and none is anticipated by the Sanitary Department. The precautions taken to prevent infection have been those uniformly applied for that purpose since the discovery in 1900-01 that yellow fever is not a contagious disease, but is transmitted from one person to another by the *stegomyia* mosquito, and by that mosquito alone.

The theory that the mosquito carried the disease was first given to the world by Dr. Carlos J. Finlay of Havana, in 1881. He made many experiments to test the truth of the theory, but they failed, because he used mosquitos at too short an interval after biting a yellow fever patient—four or five days. Subsequent tests showed that a period of twelve days must elapse before the bite of a contaminated mosquito becomes infecting. Symptoms of infection appear within from three to six days after the biting.

During the American occupation of Cuba in 1900, yellow fever became epidemic in Havana. Gen. George M. Sternberg, Surgeon General of the United States Army, appointed Drs. Walter Reed, James Carroll, Aristides Agramonte, and Jesse W. Lazear, a board to conduct a series of experiments for the purpose of testing the mosquito theory of transmitting the disease. These experiments extended from June, 1900, to February, 1901. In the course of them Drs. Carroll and Lazear permitted themselves to be bitten by infected mosquitos in order to test the theory. Both had the disease; Dr. Carroll recovered, but Dr. Lazear died. In all, there were ten cases, all voluntary, in which the disease was communicated by mosquitos.

In addition to testing the mosquito theory experiments were made to show that the disease was not contagious. A building was constructed with a single vestibuled entrance. It was screened against the entrance of mosquitos, and was heated by a coal oil stove to a temperature exceeding 90 degrees. Into this room, which was made warm, dark and moist like the hold of a ship in the tropics, a quantity of sheets, blankets, pillow slips, and garments, direct from a yellow fever hospital, were placed. Several nonimmune Americans voluntarily entered this room at night, slept in the contaminated bed clothing, handled the contaminated sheets, blankets, and garments repeatedly, and continued this practice for twenty consecutive nights. No one of them contracted the disease.

After the tests had been completed by the board some confirmatory tests were made by Dr. John Guitéras of Havana. He caused seven persons to be infected by mosquitos, three of whom died, among them a young American nurse, Miss Maas of Baltimore, who had voluntarily submitted herself to the experiment.

The results of these various experiments, as summarized by Dr. Carroll were, that yellow fever is transmitted by the mosquito of the genus *stegomyia*, and by that means alone; that infection through contact with bedding, clothing and dejecta of yellow fever patients is impossible; and hence it follows that disinfection against yellow fever is valueless, except when it takes the form of fumigation and destroys mosquitos.

A French commission from the Pasteur Institute, working subsequently in Brazil, confirmed all of the results of the American Army Board.

In a lecture, which he delivered in the spring of 1905, Dr. Carroll described as follows the methods for fighting yellow fever:

> The hospitals intended for the treatment of suspected cases of yellow fever should be located upon ground that is high, well drained, away from creeks, pools, or standing water of any kind, free from mosquitos, and not surrounded by grass or shrubbery. All entrances and exits to such hospitals should be provided with close-meshed wire screen spring doors, and similar screens should be fixed immovably over every window and other opening communicating with the exterior. Standing water should not be permitted in barrels or vessels of any kind, and broken crockery, tin cans, or other possible retainers of rain water should be systematically searched for within a radius of several hundred yards, and removed.
>
> In general sanitation, all surface pools should be promptly drained and filled in with gravel, or covered with petroleum. Petroleum should be applied systematically to standing water in all ditches, pools, rain water gutters, etc., that cannot be filled up, or emptied. The margins of ponds should be deepened to enable the fish to reach mosquito larvas.
>
> Water should not be permitted to stand uncovered in houses, and rain water in cisterns or barrels when not used for drinking purposes, should be treated with petroleum; if the water is used for drinking, all openings, vents, etc., should be closed with wire screens or tightly fitting covers. Periodic examinations should then be made for wigglers (larvas), or mosquitos, because the female mosquito may pass through a very minute opening when seeking water on which to deposit her eggs.
>
> After the removal of a patient, his room and the adjoining ones should be at once tightly closed by pasting paper over all cracks and openings, and then fumigated with insect powder, tobacco, or sulphur, to destroy mosquitos. When the room is opened after a few hours, these should be swept up and burned.
>
> Experience at Havana has shown that patients suffering from yellow fever upon their arrival at a port can be carried through a thickly populated city to a properly screened bospital, and there treated without the slightest danger to the community, so long as they are rigidly protected against mosquitos. Money spent for the purpose of disinfection against yellow fever is wasted, for yellow fever in epidemic form can only be contracted through the bites of mosquitos of a single genus.
>
> When a house is infected with yellow fever, it simply contains infected mosquitos; in the absence of this insect, no amount of filth, heat or moisture is capable of generating the disease.
>
> Vessels from infected localities should be compelled, upon entering port, to anchor at least a fourth of a mile from shore; they should never be permitted to tie up to a wharf or dock in the city, except in northern latitudes during the cold season of the year. In this way, the chances for contaminated mosquitos reaching the city can be reduced to a minimum.
>
> As the yellow fever mosquito does not bite, as a rule, between the hours of 9 a. m. and 3 p. m., it is practically safe for nonimmunes to visit infected localities between these hours for the transaction of business. Before 9 a. m., and after 3 p. m., they will run a greater or lesser risk of being infected.
>
> It is now certain that before the lapse of many years, the disease, yellow fever, will have become extinct. The length of time necessary for its complete eradication will depend upon the readiness of our southern neighbors to accept the mosquito theory *in toto*, and institute in their infected seaports vigorous and energetic measures based upon it.

The application of these methods banished yellow fever from the island of Cuba in 1901, and from the Canal Zone in 1905.

When the Americans took possession of the Canal Zone on May 4, 1904, there were a few cases of yellow fever on the Isthmus. In July, the month in which American records begin, there were two cases and two deaths in the city of Panama, all of employes. There were no cases in August, but a few in each of the remaining months of the year. In January, 1905, there were in the whole population 19 cases, 7 of whom were employes of the Panama railroad and the Canal Commission. There were 8 deaths, including one Canal employe. There was a falling off in the number of cases in February, March and April, but in the last named month there were 7 cases in the Administration building in Panama in which there were about 300 nonimmune employes. Three of these died, causing a panic among the Americans, and the steamers sailing from the Isthmus were crowded to their utmost capacity by frightened employes. In May, there were 33 cases, 22 of employes, and 7 deaths, including 3 of employes. In June, the number of cases arose to 62, and the number of deaths to 19; 34 of the cases and 6 of the deaths were of employes. In July, the number of cases dropped to 42 and the deaths to 13; 27 of the cases and 10 of the deaths being of employes. In August, there was a further drop to 27 cases and 9 deaths; 12 of the cases and one death being of employes. The disease was now under control and there was a steady diminution in the cases, until in December there was only one case, an American employe, who recovered. Since that date there has been no case of yellow fever in the Canal Zone, and only one that has originated on the Isthmus, which was in Colon in May, 1906.

A table is appended showing the number of cases, deaths, etc., during the epidemic:

MONTH.	Total.		Employes		Place of Origin.			
	Cases.	Deaths.	Cases.	Deaths.	Panama.	Colon.	Canal Zone.	Foreign Ports.
1904.								
July	2	2	2	2	2	....	....	....
August	....	....	....	....	....	....	....	....
September	1	....	....	....	1	....	....	....
October	2	....	....	....	1	1	....	....
November	2	....	1	....	2	....	....	....
December	6	1	2	....	5	1	....	....
1905.								
January	19	8	7	1	8	1	1	9
February	14	9	5	3	10	....	2	2
March	11	3	6	...	7	4	....	....
April	9	3	7	3	8	1	....	....
May	33	7	22	3	16	14	3	....
June	62	19	34	6	29	17	13	3
July	42	13	27	10	15	9	8	10
August	27	9	12	1	11	10	5	1
September	7	4	3	3	5	....	1	1
October	5	3	3	2	4	1	....	....
November	3	3	1	1	1	2	....	....
December	1	....	1	....	....	1	....	....
Total	246	84	133	35	125	62	33	26

Similar methods to those employed in yellow fever suppression have been used in the Canal Zone for the destruction of another mosquito, the *anopheles*, which carries the malaria germ. It was established by experiments made in 1898, by Dr. Roland Ross of the British Indian Army Medical Service, and three Italian physicians, Drs. Bigami, Bastianelli, and Grassi, that malaria is transmitted from one person to another solely by this mosquito, and is not due to miasma exhaled from the soil, or to poisonous air of any sort.

The south shore pier of Gamboa bridge, on the relocation of the Panama railroad, will be inclosed with a coffer dam in order that the concrete may be extended and the foundation of the pier strengthened. The floods of November and December washed away some of the material around the foundation of the pier.

A Mann-McCann spreader of the heavy type in use by the Central Division has been ordered for the dry fill of Gatun Dam.

CHURCH AND OTHER EVENTS.

Two Benefit Entertainments Held—Revival Meetings—Women's Clubs—Red Cross Work.

The National Theater, Panama, was filled on Saturday evening, January 29, when the vaudeville entertainment in aid of the Church of the Holy Redeemer at Culebra was held. A varied program was given consisting of vocal solos by Madame Faure, accompanied by Professor Garay; also, by Miss Minnie Williams, and Messrs. Case and Perkins; an exhibition of club swinging by Mr. Kramer; a monologue by Mr. Case; two skits; and selections by the Culebra male quartet, and the Panama National Band. The entertainment was under the management of Mrs. C. H. Devol and Mrs. H. H. Rousseau, and Mr. F. D. Flynn, stage manager. The proceeds amounted to approximately $2,000.

There was a large attendance at the entertainment held in Ancon hall for the organ fund of St. Luke's church, on Wednesday evening, January 26. The program consisted of musical numbers by Mrs. Wesley Owen, Mrs. Boyd, and Mr. Ivens, and an instrumental trio, Mrs. Wallace and Messrs. Orenstein and Wright, and a reading by Mrs. Boxer. The second part of the program was a series of tableaus entitled "Family Portraits," those taking part being Mrs. Mason Johnson, Mrs. Charles W. Boxer, Mrs. H. E. Bovay; the Misses Whitfield, Bryan and Bentley, and Messrs. Dozier, Dewling, Ransom, Jackson, and Charles Bovay. At the close, the company sang "My Own United States," with Mrs. Owen, as leader, and Mrs. Johnson representing "Columbia." Dancing followed.

The ladies of the Methodist church, Panama, held a reception at the home of Mrs. William H. Bain in honor of Mrs. Mary Gaither of Youngstown, Ohio, on the afternoon of January 27. Mrs. Gaither, who has been active in church work during her residence on the Isthmus, is leaving permanently for her home in the States.

A reception in honor of the newly appointed chaplain, Rev. A. A. Nellis and Mrs. Nellis, was held at the clubhouse, Culebra, on Friday evening, January 28. The reception was preceded by a program of music by Mrs. E. C. Freeman and the Culebra male quartet. Mr. E. E. Lee delivered the address of welcome, Rev. Mr. Nellis responding. A progressive social followed, the company being divided into groups. Refreshments were served.

The revival meetings that are being conducted in the Empire chapel by the Rev. Otto Bamber and Mr. J. E. Reynolds will close on Friday evening, February 4. The meetings have been well attended, and several new members have been added to the Baptist congregation at Empire. A series of meetings will be held at Gorgona, beginning on Sunday evening, February 6. All residents are invited to attend.

The death has occurred in Bridgetown, Barbados, of Rev. George H. Penny, head of the Christian Mission, with headquarters in Barbados, and a large membership in the Canal Zone. Dr. Penny had recently returned to Barbados from a two month's visit to the Isthmus, during which a new church building was opened in Panama. In December, Dr. Penny made an unsuccessful effort to enter the San Blas country, where he had hoped to establish a missionary teacher.

The Christian Science congregation of the Canal Zone has elected officers. Mr. D. St Clair of Gatun and Captain Lillie of Ancon are the executive officials. Services are conducted in the Commission chapel at Gorgona on Sunday mornings at 8 o'clock. Mr. W. M. Wood of Empire, is the first reader, and Mrs. Butler of Gatun, the second reader. The regular membership is 25, but the size of the congregation is frequently augmented by the attendance of visitors.

Women's Clubs.

A special meeting of the Gorgona Woman's Club was held on Thursday, January 27, for the purpose of electing officers, several vacancies having occurred in the club by removals from the Isthmus, and illness. Mrs. Harry Otis was elected president; Mrs. J. B. Kramer, vice-president, and Mrs. George McCann, treasurer. The program of the literature department, which was scheduled for the meeting, was postponed. The club is arranging to hold a dance on the evening of St. Valentine's Day. Mrs. E. S. Calvit is chairman of the committee on arrangements.

The Paraiso Woman's Club will hold a card party and dance early in February. The social meeting of the Pedro Miguel Woman's Club was held at the home of Mrs. H. Girdner on Wednesday, January 26.

Red Cross.

The Gorgona district of the Canal Zone Branch Red Cross held a meeting on Monday evening, January 24, for the purpose of electing officers. The chairman, Mr. A. J. Hackenberg presided. The balloting resulted in the reelection of Mr. Hackenberg, chairman; Mr. T. S. Booz, secretary, and Mr. H. Otis, treasurer. A membership committee was appointed. The district will hold an entertainment in March.

The proceeds from the flower dance held by the Cristobal district in December, amounted to $289.

The Paraiso district of the Canal Zone Branch Red Cross will hold a meeting in the chapel on Thursday evening, February 3, for the purpose of renewal of membership and election of officers.

Masonic Dance.

The Pacific Masonic Club held a dance at Ancon hall on Saturday evening, January 29, at which there was a good attendance. At the next regular meeting, February 12, the following officers will be installed to serve for the ensuing term: Wm. H. Howe, president; Carl P. Hoffman, first vice-president; John F. Lewis, second vice-president; Wm. E. Roessner, secretary-treasurer.

Seeing the Canal.

Employes of the Central Division, with their families, made a sight-seeing trip on Sunday, January 23, over the Canal work. The work at Balboa and Miraflores was inspected, and the train was run through Culebra Cut, and to Gatun, where the lock and dam work were seen. Luncheon was taken at the Gatun hotel. A similar excursion for the Pacific Division employes will be arranged for some Sunday in April.

A party of 169 English and American tourists arrived in Colon on the Royal Mail steamship *Avon* on Wednesday, January 26. The party crossed the Isthmus in a special train, arriving at Ancon at noon. Lunch was taken at the Tivoli, and the afternoon was spent in sight-seeing in Panama. The *Avon* left the same evening for Venezuela and Jamaica.

The Hamburg-American liner *Moltke* of 12,335 tons, arrived at the port of Colon on Tuesday, February 1, with a party of 350 tourists. The steamer left New York on January 22, and made stops at St. Thomas and other West India islands, including Jamaica, en route. The tourists were taken on a sight-seeing trip through the Canal Zone on Tuesday, and sailed during the evening of the same day for La Guayra, Venezuela, and the Antilles.

PERSONAL.

Mr. H. H. Rousseau, with Mrs. Rousseau, is in Costa Rica on leave of absence.

Mr. John M. G. Watt, Assistant Division Engineer of the Pacific Division sailed for the States on the United Fruit Company's steamship *Atenas*, on Tuesday, January 25, on his annual leave of absence.

Mr. A. L. Robinson, Electrical Engineer and Master Mechanic, sailed on the *Colon*, on January 28, for the States, where he will spend 84 days accumulated leave of absence.

Athletic Meet.

Arrangements have heen made to hold an athletic meet on Washington's Birthday, February 22, at 10 o'clock a.m., at the Atlantic Athletic Association park, Colon. Teams from the Young Men Christian Associations on the Isthmus, and one from the Washington Reading Room Club, will participate. For further particulars apply to A. C. Harragin, local auditor's office, Panama Railroad Company, Colon, R. P.

Resolutions of Respect.

At a special meeting of Gorgona Lodge, No. 685, International Association of Machinists held at Gorgona on January 10, resolutions of respect and sympathy were passed on the death of Fred. A. Bork, who died at Ancon Hospital on January 10.

A letter of respect and sympathy has been presented by the employes at Ancon quarry, to Mr. and Mrs. J. M. Brown, the parents of Conductor J. E. Brown, who lost his life in an accident at the quarry site on January 12.

Local No. 19, International Brotherhood of Steam Shovel and Dredgemen, has adopted resolutions of sympathy on the death of Mrs. A. W. Fox, wife of Mr. A. W. Fox, and sister of Mr. Charles Hayden, both members of the Brotherhood.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Culebra, C. Z., on Sunday, February 6, 1910, at 5.45 p. m. The program follows:

1 March—*King Sol*........................Glogau
2 Selection—*The Fair Co-ed*................Luders
3 Serenade—*La Paloma* (by request)......Xradier
4 Overture—*Concert in F*................Kalliwoda
5 a National Song of Costa Rica—*De la Patria* (by request.)
  b Two-Step—*Pigeon Wing Rag*........Johnson
6 Medley Selection—*Songs of the Day*.......Lampe
Introducing "It Looks Like a Big Night To-night," "Shine on, Harvest Moon," "When I Marry You," "I Want Some One to Call Me Dearie," "I Used to Be Afraid to Go Home in the Dark," "Golden Arrow," "Dear Heart," "Honeyland," and Finale.
7 Two Hungarian Dances...........Brahams
8 Paraphrase—*Silver Threads Among the Gold*..............Danks
9 March—*Chicago Tribune*..............Chambers

CHAS. E. JENNINGS, *Musical Director*.

A concert will be given at Hotel Tivoli, Ancon, Sunday, February 13, at 7.30 p. m.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

Empire won two out of three games in a duck pin match at Culebra last Thursday night by the following scores: Empire—443, 447, 463; Culebra—425, 436, 474. Frederick and Huson of Culebra made high scores of 113 and 103, respectively.

Gorgona and Culebra, the two leading teams in the indoor baseball league, meet at Culebra on Saturday night, February 5. Game begins at 8 o'clock sharp. A game wilf be played Thursday night between the regular team and a picked team.

Reserved seats for the Edith Harris-Scott concert will be placed on sale Wednesday, February 2, at 7 p. m.

The standing in the local pool tournament is as follows:

	Won.	*Lost.*		*Won.*	*Lost.*
Flynn	1	0	Hunter	7	4
McRaven	10	1	Stevens	3	4
Vogel	6	1	Goodman	3	4
Beaman	4	1	Holstead	2	4
Reeve	4	2	Rinderle	2	4
Johnson	4	3	Palmer	1	4
French	1	3			

The standing of the billiard tournament at the present time is as follows:

	Won.	*Lost.*		*Won.*	*Lost.*
Vogel	4	0	Rinderle	2	3
Tragsdorf	4	1	Johnson	0	4
Bayne	3	1	French	0	4

EMPIRE.

The Bible class will meet Tuesday evenings from 7 to 8 o'clock, hereafter, instead of Thursdays.

Mr. Hartman has established a new lifting record by increasing his own record to 1,150 pounds.

The Spanish classes will begin at 7 p. m. on Monday, February 7, as more than the required number have applied. Applicants are requested to see the secretary at once for further information. It is hoped that there will be more applicants for the other courses in English and history, in order that these classes may also be started on time.

It has been found necessary to postpone the smoker announced last week, until Friday night of this week.

The barber shop has been opened again with regular hours, after being closed in the evening for ten days.

At the meeting of the Camera club last week the following officers were elected for the next six months: U. L. Upson, president; E. R. Gobrecht, vice-president; J. L. Bewick, treasurer; H. H. McAnnelly, secretary; F. W. Johnson, librarian. The honor place for best picture last week was awarded to J. L. Bewick.

GORGONA.

The orchestra from the Hamburg-American steamer, in port at Colon, gave a concert at the clubhouse on Tuesday evening, January 25.

Friday evening, January 28, the Lopretti vaudeville company gave a performance to a well filled house.

On Saturday night, January 29, in a game of indoor baseball, "Robitoy's Roosters" defeated the "Winchester Arms" by a score of 15 to 12.

On Sunday evening, January 30, Mr. H. L. Stuntz gave an address at the Y. M C. A. His subject was "Our Tasks." Miss Edith Anderson rendered a vocal solo. A large audience was present.

CRISTOBAL.

In the local indoor basketball league, on Monday night, January 24, the "Knutt-Splitters" won from the "Head-Liners," 17 to 4. On Friday night, January 28, a double-header was played, the "Knutt-Splitters" winning from the "All-Stars," 21 to 8, and the "Swastika Five" from the "Head-Liners," 19 to 11. The standing of the teams to date is as follows:

	Played.	*Won.*	*Lost.*	*Per cent.*
Knutt-Splitters	5	5	0	1000
Swastika Five	5	4	1	.800
All-Stars	4	0	4	.000
Head-Liners	4	0	4	.000

Two chess tournaments have been started composed of class "A" players and class "B" players. In class "A," the following men are entered: Alper, Davidson, Davis, Fechtig, Hill, Pack, Schaff, Shutes, B. M. Vifquain, Wimpe, Tuttle, Dubois, Worsley and Ware. Class "B" is composed of Messrs. Barnes, Einsohn, Hampton, Magerhans, Pike, Stoddard, Van Zant, Weaver, Carson, J. B. Vifquain, Rattiner, Vance, Andrews, J. S. Vifquain, and Miller. Prizes will be awarded the winners of each tournament. New equipment for the club is expected shortly.

The members of the boys' department have just finished a two month's bowling tournament, four teams of four boys each being entered. Silver medals have been awarded for the highest individual score and the highest average, and bronze medals to the team winning the most games. The winners are as follows: High individual score, John Schwallenberg, 143; high average, Swift Carpenter, 119¾; winning team, "B," Dominic Raymond, Walter Lindersmith, Harold Jennings, and Norman Lindersmith.

A game of indoor baseball was played against Empire on the home floor on Saturday night, January 29. Empire won out by heavy batting, the score being 30 to 29.

GENERAL NOTE.

The Edith Harris-Scott Concert Company will arrive on the Isthmus on Thursday, February 3, and will give a series of concerts under the management of the Y. M. C. A., as follows: February 4, Gorgona; February 5, Ancon, February 7, Culebra; February 8, Empire; February 9, Cristobal; February 10, Porto Bello; February 12, Corozal.

Rainfall, January 1 to 29, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Division—	*Ins.*		*Ins.*
Cristobal	1.13	1	2.64
Brazos Brook	.91	1	3.37
Gatun	.97	1	3.86
Central Division—			
Bohio	.68	1	2 08
Tabernilla	.69	1	1.15
San Pablo	.38	1	.95
Gorgona	.50	2	.92
Gamboa	.30	1	.96
Empire	.16	5	.52
Camacho	.63	6	1.70
Culebra	.73	5	1.09
Pacific Division—			
Rio Grande	.93	5	1.44
Pedro Miguel	.77	5	1.70
Miraflores	1.55	3	3.33
Balboa	.53	5	.89
Ancon	.80	5	1.11
Atlantic Coast—			
Porto Bello	4.74	5	13.31
Nombre de Dios, (To January 22)	2 00	1	8.80
Upper Chagres—			
El Vigia	.28	6	.48
Alhajuela	2.27	6	2.89

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, January 29, 1910.

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft.	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Jan. 23	127.6	94.9	48.6	6 6	2.2	2.0
Monday, Jan. 24	127.4	94.8	48.3	6.0	2 2	2.0
Tuesday, Jan. 25	127.3	94.7	48.2	5.8	2.0	1.8
Wed'esday, Jan. 26	127.1	94.5	48.1	5.6	1.8	1.5
Thursday, Jan. 27	127.0	94.4	48.1	5.5	1.8	1.4
Friday, Jan. 28	127.0	94.4	48.0	5.3	1.9	1.5
Saturday, Jan. 29	127.1	94.4	48.2	5.2	1.4	1.1

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending February 9, 1910 (75th meridian time):

DATE.	High.	Low.	High.	Low.	High.
	A M.	A. M.	A. M.	P. M.	P. M.
February 3	....	3.54	9.40	4.07	10.05
February 4	....	4.50	10.40	5.07	11.06
February 5	....	5.53	11.54	6.15	....
			P. M.		
February 6	12.17	6.54	1.05	7.18	....
February 7	1 22	7.52	2.05	8.15	....
February 8	2.18	8.42	2.54	9.05	....
February 9	3.07	9.28	3.39	9.51	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Proposals for Excavation in Canal Prism.

OFFICE OF CHIEF QUARTERMASTER,
CULEBRA, C. Z., February 1, 1910.

Sealed proposals for excavation of a section in the Canal prism, near Tabernilla, containing about 36,138 cubic yards, and a section near Bohio, containing about 166,272 cubic yards, will be received here until 2 p m., March 1, 1910, and then opened. Full information will be supplied by the Division Engineer, Empire. Envelopes containing proposals must be indorsed "Proposals for excavation in Canal prism," and addressed C. A. DEVOL, *Chief Quartermaster.*

BASEBALL.

ISTHMIAN LEAGUE.

RESULTS OF GAMES, JANUARY 30.

Empire, 2; Ancon, 0.
Marines, 5; Gorgona, 3.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*P.*	*W.*	*L.*	*Pc.*
Gorgona	10	7	3	.700	Empire	8	5	3	.625
Ancon	8	5	3	.625	Marines	10	1	9	.100

SCHEDULE FOR FEBRUARY 6.

Gorgona at Ancon.
Marines at Empire.

Marines.	R.	H.	PO.	A.	E.	Gorgona.	R.	H.	PO.	A.	E.
Maguire, 1b	0	0	11	0	1	Dougherty, 2b	1	0	2	1	0
Scarff, ss	0	2	2	3	0	Magee, lf	1	2	2	1	0
Hurrle, lf	0	1	1	0	0	Barney, 1b, rf	0	0	7	1	1
Snyder, cf	1	2	0	0	1	Herring, c	1	2	7	4	0
Heinz, rf	1	0	1	0	0	Cole, ss	0	1	1	0	0
O'Brien, 2b	1	1	6	0	0	Clements, cf	0	1	3	0	0
Yelton, p	0	1	0	3	0	Ridge, rf	0	1	0	0	0
Lubomski, c	1	1	3	1	0	Wright, 1b	0	0	1	0	0
Volman, 3b	1	2	2	5	0	Emery, 3b	0	1	3	2	0
						Case, p	0	0	0	2	0
Totals	5	10	26*	12	2	Totals	3	8	26†	11	1

*Dougherty out, bunted foul on third strike.
†Magee out for making a foul strike.

Runs earned—Marines, 3; Gorgona, 2. Two base hits—Magee, Cole. Sacrifice hits—Hurrle, Herring, Lubomski, Barney. Stolen bases—Hurrle, Snyder, Heinz, Clements. Bases on balls—Off Case, 2; off Yelton, 3. Struck out—By Case, 7; by Yelton, 3. Hit by pitcher—By Case, Yelton; by Yelton, Dougherty; Left on bases—Gorgona, 9; Marines, 6. Umpire—Irwin. Time of game—2.05. Scorer—D. G. Hayes.

Empire.	R.	H.	PO.	A.	E.	Ancon.	R.	H.	PO.	A.	E.
Bryan, 3b	0	1	2	4	0	Pearman, 3b	0	0	2	1	1
Moore, c	0	0	7	3	0	Hunter, cf	0	0	0	0	1
S. Fluh'ty, rf	0	0	0	0	0	Snyder, 2b	0	0	1	1	1
Bell, 1b	1	1	12	0	1	Smith, 1b	0	0	8	1	0
Dixon, ss	0	0	2	1	1	Keller, lf	0	0	1	0	0
E. Fluh'ty, lf	1	2	1	0	0	Tinsley, ss	0	1	1	0	0
Markley, 2b	0	1	1	2	0	Yingling, c	0	0	8	3	0
Murphy, cf	0	0	2	0	0	Nygren, p	0	0	2	2	0
Marshall, p	0	0	0	5	0	Poltrino, rf	0	0	1	0	0
						*Drennan	0	0	0	0	0
Totals	2	5	27	15	2	Total	0	1	24	8	3

*Batted for Poltrino in ninth.

Empire .... 0 1 0 0 0 1 0 0 x—2
Ancon .... 0 0 0 0 0 0 0 0 0—0

Runs earned—Empire, 2. Two base hits—E. Fluharty, Markley. Sacrifice hits—Dixon, Bryan. Bases on balls—Off Marshall, 1; off Nygren, 2. Struck out—By Marshall, 6; by Nygren, 8. Hit by pitcher—By Nygren, 1. Left on bases—Empire, 6. Double plays Marshall, Markley to Bell. Umpire—Cooling. Time of game—1.30. Scorer—W. H. Hall.

Delayed score of game played January 16, at Ancon:

Marines.	R.	H.	PO.	A.	E.	Ancon.	R.	H.	PO.	A.	E.
Maguire, 1b	2	1	10	0	1	Pearman, 3b	1	3	1	0	1
Hurrle, lf	0	0	4	0	1	Nygren, 1b	0	2	8	0	1
Lubomski, rf	0	0	0	0	0	Keller, lf	0	1	2	0	0
Snyder, 2b	0	1	1	2	0	Smith, 2b	1	0	2	1	2
Scarff, ss	0	1	2	0	0	Yingling, c	0	0	12	0	0
Volman, 3b	0	1	2	5	1	Hunter, cf	2	0	1	0	0
Burke, cf	0	0	2	0	0	A. Snyder, ss	1	1	0	3	1
Munsen, p	0	2	0	2	1	Frampton, rf	1	1	1	0	0
Conway, c	0	0	3	2	0	Tinsley, p	1	1	0	4	2
Total	2	6	24	11	4	Total	7	9	27	8	7

Marines .... 1 0 1 0 0 0 0 0 0—2
Ancon .... 0 0 1 0 0 4 0 2 x—7

Runs earned—Ancon, 2. Two base hits—Maguire, Keller, Frampton, Tinsley. Sacrifice hit—Nygren. Stolen bases—Smith (2); Hunter. Bases on balls—Off Tinsley, 3; off Munsen, 2. Struck out—By Tinsley, 11; by Munsen, 3. Left on bases—Ancon, 5; Marines, 13. Umpire—Irwin. Time of game—1.50. Scorer—Hill.

ATLANTIC LEAGUE.

RESULT OF GAME, JANUARY 30.

Panama Railroad, 2; Colon, 2.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*P.*	*W.*	*L*	*Pc.*
Com-Sub	3	3	0	1000	Civ. Adm	3	1	2	.250
P. R. R	3	1	1	.333	Colon	3	0	2	.000

SCHEDULE FOR FEBRUARY 6.

Commissary-Subsistence vs. Panama Railroad.
Civil Administration vs Colon.

P. R. R.	R	H	PO.	A.	E.	Colon.	R.	H.	PO.	A.	E.
Bryan, lf	0	0	1	0	0	Stevens, rf	0	0	0	0	0
Wood, 1b	0	0	5	0	0	Weber, 3b	0	0	2	3	1
Lewis, c	1	1	8	1	1	Odea, 2b	0	0	0	0	0
McGinniss, cf	1	0	3	1	0	Jeffries, ss	1	1	0	0	0
Dockery, ss	0	1	1	0	2	Kenney, c	1	1	9	0	1
Ellington, 3b	0	0	0	2	0	Sprechen, 1b	0	1	6	1	1
Vifquain, rf	0	1	2	0	0	Bailey, p	0	2	1	4	0
Hoffman, 2b	0	0	1	2	1	Souders, cf	0	0	1	0	0
Stratton, p	0	0	0	1	0	Hope, lf	0	1	0	0	0
Total	2	3	21	7	4	Total	2	6	19*	8	3

*Game called in seventh inning, one out (rain.)

Colon .... 0 0 0 2 0 0 0—2
Panama Railroad .... 0 0 0 0 0 0 2—2

Runs earned—Colon, 1. Two base hit—Hope. Sacrifice hit—Jeffries. Stolen bases—Bryan, Vifquain, Dockery, Kenney (2); Sprechen. Struck out—By Bailey, 8; by Stratton, 7. Left on bases—P. R. R., 4; Colon, 7. Umpire—Rohr. Time of game—1.25. Scorer—Rennard.

COMMISSARY DEPARTMENT.

Sale of Remnants.

CRISTOBAL C. Z., February 1, 1910.

There will be placed on sale, on the dates mentioned below, a quantity of piece goods consisting of remnants in voiles, luscine tissue, Swiss applique, mercerized batiste, chiffon voile, thistle silk, soie florette, Swiss plumetis, and dimities; gentlemen's drawers and undershirts, and conductors' bags; a lot of women's tan Russia calf Oxfords, gun metal Oxfords, patent leather Oxfords, and white canvas Oxfords, and white kid slippers, all $3 and $3.50 values, to be closed out at $1, $1.25 and $1.50 per pair; men's tan and black shoes and Oxfords, $3 50, $4 and $5 values, to be closed out at $1.50 and $2 per pair; one lot of misses' patent kid shoes, $2 value, to be closed out at 75 cents.

Those interested in the purchase of any of these articles may call at any of the commissaries mentioned below, on the dates published, where they will find the goods exhibited and properly marked showing the original and sale prices:

Gatun—February 7, 8, and 9.
Gorgona—February 11, 12, and 14.
Empire—February 16, 17, and 18.
Culebra—February 21, 23, and 24.
Pedro Miguel—February 26, 28, and March 1.
Balboa—March 3, 4, and 5.

JOHN BURKE, *Manager*.

Approved: EUGENE T. WILSON,
Subsistence Officer.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning February 1:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	*24
Chops	per lb	*26
Cutlets	per lb	*25
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	*20
Beef—Suet	per lb	*2
Soup	per lb	*5
Stew	per lb	*9
Corned	per lb., 12, 14	16
Chuck roast	per lb	*13
Pot roast	per lb	*15
Rib-roast, second cut (not under 3½ pounds)	per lb	*18
Rib-roast, first cut (not under 3 pounds)	per lb	*20
Sirloin roast	per lb	*21
Rump roast	per lb	*21
Porterhouse roast	per lb	*21
Steak, Chuck	per lb	*14
Round	per lb	*15
Rib	per lb	*20
Sirloin	per lb	*21
Porterhouse	per lb	*21
Rump	per lb	*21
Tenderloin	per lb	24

MISCELLANEOUS.

Livers—Beef	per lb	8
Calf	each	*60
Half	each	*30
Sausage—Pork	per lb	14
Bologna	per lb	14
Frankfurter	per lb	14
Leberwurst	per lb	14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	25
Oysters, in 1-quart kegs	keg	55
Oysters, in ½-gallon kegs	keg	90
Eggs, fresh	dozen	42

POULTRY AND GAME.

		Price.
Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04.	1.15
Ducks, large	each	1.50
medium	each	1.30
Broilers	each	75
Turkeys	per lb	*28
Squabs	each	35
Capons	each	2.50
Geese	each	*2.50
Rabbits	each	40

CURED AND PICKLED MEATS.

Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Sugar cured	per lb	*19
Sugar-cured, sliced	per lb	*24
Half, for boiling	per lb	*20
Boiled	per lb	*26
Hocks	per lb	‡8
Bacon—Breakfast, whole piece	per lb	*24
Breakfast, sliced	per lb	*25
Beef, salt, family	per lb	*9
Pork, salt, family	per lb	15
Ox tongues	each	*60
Pigs' feet	per lb	8
tongues	per lb	16
Mutton, mess	per lb	*7

DAIRY PRODUCTS.

Butter—Creamery special	per lb	45
Cheese—Roquefort	per lb	*38
Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	*26
Edam	each	*1.00
Neufchatel	each	6
Gouda	per lb	34
Milk, Briarcliff	bottle	**25
Butter	bottle	**15

VEGETABLES AND FRUITS.

Celery	per hd	*8
Lettuce	per hd 8, 11,	14
Cucumbers	per lb	18
Potatoes, white,	per lb	3
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	3
Garlic	per lb	15
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	*3
Cabbage	per lb	3
Squash	per lb	5
Lemons	dozen	24
Cranberries	per lb	10
Apples,	per lb	5
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4
Pineapples	each	18

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*Indicates reduction from last list.
**Indicates 5 cents allowed for return of bottle.
†Indicates advance on last list.
‡Sold only from Commissaries; no orders taken for delivery.
§Sold only from Cold Storage and not from Commissaries.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., January 26, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Archer, Clifford
Ball, R. E.
Barnes, Alfred
Bouche, F. D.
Bryan, Neil
Butler, Timothy J.
Clardy, A. B.
Daily, Tom
Erickson, C. J.
Graham, W. F.
Guy, Wood
Harrison, W. T.
Hambenreich, George
Healey, G. W.
Heiskell, Otho
Hennen, Lawrence
Holt, Mack
Hughes, D.
James, C. S.
Jansen, Joe
Jordan, W. B.
Kongkin, Chas. F.
Klett, Armando
Lauritzen, Capt. Wm.
List, Chas. A.
Luke, Aletha
Marti, J. M.
Martland, Felix
McBride, Frank
Neary, Dr. John B.
Robbins, Alfred M.
Rosengren, Axel
Seager, John F.
Sharkey, John F.
Simpson, Major Wendell L.
Sites, Ellen A.
Smoth, Chas. L.
Stevens, Douglas
Sybert, Luther E.
Terry, Charles
Thompson, F. A.
Thompson, James E.
Toberer, Chas.
Wilson, James
Willett, Nellie
Wolters, Otto

LETTERS UNCALLED FOR FEBRUARY 2, 1910.

Alberts, Jim
Allen, Beatrice
Beattie, D. S.
Buck, C. C.
Dawney, M. J.
Dietrich, Duch
Dougherty, F. F.
Foster, Mattie
Grant, Pearl
Greene, Jacob W.
Irwin, Mary
Leith, T. R. Vonder
Lindslay, William
Nichols, J. N.
Richardson, S. F.
Sanders, May
Shaw, James
Sherry, Laura E.
Spicer, George E.
Stoney, William E.
Thompson, J. E.
Walker, Arthur (?)

Proposals for Type-14 Houses at Gatun.

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, C. Z., until 3 p. m., February 4, 1910, and then opened, for the erection by contract of six (6) type-14 houses at Gatun. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $500 when the contract is signed. C. A. DEVOL, *Chief Quartermaster*.

OFFICIAL CIRCULARS.

Officials Acting in Mechanical Division.

CULEBRA, C. Z., January 28, 1910.

CIRCULAR NO. 303:

During the absence of Mr. A. L. Robinson, electrical engineer and master mechanic, on leave, Mr. A. T. Corcoran will be acting master mechanic of Gorgona shops and will sign all official papers.

Mr. W. O. Johnson will handle outlying engine house and air compressor plants.

Mr. John H. Flynn, mechanical engineer, will handle all matters pertaining to boiler inspection service testing department and all technical details of the Mechanical Division.

Mr. Hartley Rowe will be acting electrical engineer and handle the work of the electrical subdivision.

All mail will be addressed to the electrical engineer and master mechanic, as heretofore.

GEO. W. GOETHALS, *Chairman*.

Authority to Pay for Overtime.

CULEBRA, C. Z., January 27, 1910.

CIRCULAR NO. 282-A:

In submitting requests to this office for authority to pay overtime in excess of the 75 hours limit for one month, please submit the request in triplicate, the original of which will be forwarded to the Examiner of Accounts after approval, one copy returned to the division making the request and one copy retained for our files. GEO. W. GOETHALS, *Chairman*.

Vacancies Caused by Reduction in Force.

CULEBRA, C. Z., January 25, 1910.

CIRCULAR NO. 302:

Applications are occasionally received for the employment of persons to fill vacancies created by the discharge of a former employe "On account of reduction of force."

When an employe occupying a position in the authorized organization of any department or division is discharged "On account of reduction of force," the position is considered abolished, and will not be reestablished without specific authority in each instance.

GEO. W. GOETHALS, *Chairman*.

Reduction in Laundry Prices.

CIRCULAR NO. 153:

CRISTOBAL, C. Z., January 31, 1910.

Effective February 1, the following reductions were made in laundry prices:

MEN'S ARTICLES.	*Old Price.*	*New Price.*
Coats, white	20c.	15c.
Coats, linen	15c.	12c.
Coats, khaki	12c.	10c.
Pants, white	15c.	12c.
Pants, linen	15c.	12c.
Pants, khaki	12c.	10c.
Vests, white	15c.	12c.
Pajama suits, linen	12c.	10c.
WOMEN'S ARTICLES.		
Underskirts	20c.	18c.
Dresses	35c.	30c.
Dress skirts	20c.	18c.
Shirt waists	15c.	12c.
Wrappers	25c.	20c.
Kimonos	15c.	12c.
Bath robes	20c.	10c.
Caps	6c.	5c.
Child's waists (outer)	7c.	6c.
FAMILY WASHING.		
Sheets	5c.	3c.
Pillow cases	3c.	2c.
Bath towels	2c.	1c.
Hand towels	2c.	1c.
Tablecloths	5c.	3c.
Napkins	2c.	1c.

The "per pound" rate has been abolished for the reason that it would be much higher than the piece rate which we have put into effect.

JOHN BURKE, *Manager*.

Approved: EUGENE T. WILSON,
Subsistence Officer.

Proposals for Stable and Other Buildings at Ancon.

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, C. Z., until 3 p. m., February 11, 1910, and then opened, for the erection by contract of a stable building, a hospital stable, a wagon and cart shed and a carriage shed at Ancon. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $300 when the contract is signed. C. A. DEVOL, *Chief Quartermaster*.

Proposals for Type-20 House at Porto Bello.

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, C. Z., until 3 p. m., February 7, 1910, and then opened, for the erection by contract of a type-20 house at Porto Bello. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $200 when the contract is signed. C. A. DEVOL, *Chief Quartermaster*.

CANAL DIRECTORY.

ISTHMIAN CANAL COMMISSION.

Col. Geo. W. Goethals, U. S. A., Chairman, Culebra.
Lieut.-Col. H. F. Hodges, U. S. A., Culebra.
Lieut.-Col. D. D. Gaillard, U. S. A., Empire.
Lieut.-Col. Wm. L. Sibert, U. S. A., Gatun.
Civil Engineer H. H. Rousseau, U. S. N., Culebra.
Col. W. C. Gorgas, U. S. A., Ancon.
Mr. Joseph Bucklin Bishop, Secretary, Ancon.

DEPARTMENTS.

Construction and Engineering.

Headquarters, Culebra.

Col. Geo. W. Goethals, Chairman and Chief Engineer.
William Howard May, Secretary to the Chairman.
M. B. DePutron, Assistant to the Chairman.
C. A. McIlvaine, Chief Clerk.
John K. Baxter, Assistant Chief Clerk.
H. S. Farish, Surveying Officer.
Caleb M. Saville, Assistant Engineer.

Lieut.-Col. H. F. Hodges, Assistant Chief Engineer.
C. O. Carlson, Secretary.
Edward Schildhauer, Electrical and Mechanical Engineer.
Henry Goldmark, L. D. Cornish, H. F. Tucker, T. B. Mönniche, Edward C. Sherman, Designing Engineers.

Civil Engineer H. H. Rousseau, Assistant to the Chief Engineer.
J. C. Parsons, Secretary.
A. B. Nichols, Office Engineer.

Central Division.

Headquarters, Empire.

Lieut.-Col. D. D. Gaillard, Division Engineer.
L. K. Rourke, Assistant Division Engineer.
A. E. Bronk, Chief Clerk.
A. S. Zinn, Resident Engineer.
Mark W. Tenny, Assistant Engineer.
W. L. Thompson, Assistant Engineer.
George A. Greenslade, Supt. Construction.
J. W. Sneed, Superintendent Construction.
D. E. Crowley, Superintendent Construction.
Joseph Little, Superintendent Construction.
W. T. Reynolds, Superintendent Construction.
A. Sessions, Superintendent Transportation.
William H Bates, Supt. Steam Shovel Repairs.
E. E. Rigney, Superintendent Air and Water.
Dan E. Wright, Supt. Municipal Work.

Atlantic Division.

Headquarters, Gatun.

Lieut.-Col. Wm. L. Sibert, Division Engineer.
Maj. Chester Harding, U. S. A., Assistant Division Engineer.
R. M. Sands, Chief Clerk.
Maj. Edgar Jadwin, U. S. A., Resident Engineer.
Maj. J. P. Jervey, U. S. A., Resident Engineer.
Maj. G. M. Hoffman, U. S. A., Assistant Engineer.
Capt. Horton W. Stickle, U. S. A., Assistant Engineer.
Geo. M. Wells, Office Engineer.

Pacific Division.

Headquarters, Corozal.

S. B. Williamson, Division Engineer.
John M. G. Watt, Assistant Division Engineer.
J. C. Keller, Chief Clerk.
W. G. Comber, Resident Engineer.
W. B. Corse, Resident Engineer.
H. O. Cole, Assistant Engineer.
Frank Cotton, Assistant Engineer.
James MacFarlane, Supt. of Dredging.

Gorgona Shops.

Headquarters, Gorgona.

A. L. Robinson, Electrical Engineer and Master Mechanic.
William Taylor, Chief Clerk.
J. H. Flynn, Mechanical Engineer.
W. O. Johnson, Superintendent of Engine Houses and Air Compressors.

Subsistence.

Headquarters, Cristobal.

Maj. Eugene T. Wilson, U. S. A., Subsistence Officer.
Lieut. Frank O Whitlock, U. S. A., Assistant Subsistence Officer.
W. F Shipley, Chief Clerk.
John Burke, Manager of Commissaries.

Quartermaster's.

Headquarters, Culebra.

Lieut.-Col. C. A. Devol, U. S. A., Chief Quartermaster.
Lieut. R. E. Wood, U. S. A., Assistant Chief Quartermaster.
Lieut. Walter D Smith, U. S. A., Constructing Quartermaster.
C. H. Mann, Chief Clerk.
W. H. Macfarlane, Inspector of Construction and Repairs.
C. C. McColley, Inspector.
Capt. C. Nixon, U. S. A., Depot Quartermaster, Mount Hope.
C. L. Parker, Assistant Depot Quartermaster, Mount Hope.
Chas. R. Bryon, Storekeeper, Gatun.
C. L. Prentiss, Storekeeper, Gorgona.
F. W. Miracle, Storekeeper, Empire.
Robert Wuerz, Storekeeper, Miraflores.
R. K. Morris, Storekeeper, Balboa.

District Quartermasters.

B. C. Poole, Ancon and Balboa.
A. R. Bennett, Corozal
J. T. Smith, Pedro Miguel and Paraiso.
H. F. Sedwick, Culebra.
Walter G. Ross, Empire.
J. M. King, Las Cascadas.
C. E. Heisey, Bas Obispo.
R. C. Shady, Gorgona.
J. H. Humphrey, San Pablo, Tabernilla and Bohio.
R. M. Gamble, Gatun.
Roy R. Watson, Cristobal.
M. D. Smith, Porto Bello.

Civil Administration.

Headquarters, Ancon.

H. H. Rousseau, Acting Head of the Department.
G. A. Ninas, Chief Clerk.

Tom M. Cooke, Chief, Division of Posts, Customs and Revenues, Ancon
Arthur McGown, Deputy Collector, Ancon.
Jno. L. Storla, Deputy Collector, Cristobal.
George M. Shontz, Prosecuting Attorney, Ancon.
Lieut. Chas. W. Barber, U. S. A., Acting Chief of Police, Ancon.
D. E. McDonald, Chief Clerk.
C. E. Weidman, Fire Chief, Cristobal.
Geo. H. Ruggles, Supt of Public Works, Ancon.
C. R. Sargent, Chief Clerk.
J. J. Reidy, Asst. Supt. Public Works, Cristobal.
F. A. Gause, Superintendent of Schools, Ancon.
Edgar P. Beck, Treasurer of Canal Zone, Empire

Canal Zone Judiciary.

Headquarters, Ancon.

Supreme Court—H. A. Gudger, Chief Justice.
Walter Emery, Clerk, Ancon.
Lorin C. Collins, Associate Justice, Cristobal.
Wesley M. Owen, Associate Justice, Empire.
Circuit Court, First Circuit—H. A. Gudger, Judge, Ancon.
Walter Emery, Clerk.
Circuit Court, Second Circuit—Wesley M. Owen, Judge, Empire.
Elbert M. Goolsby, Clerk.
Circuit Court, Third Circuit—Lorin C. Collins, Judge, Cristobal.
Nelson R. Johnson, Clerk.
M. C. Kerdell, Senior District Judge, Cristobal.
S. E. Blackburn, District Judge, Ancon.
Edgar S. Garrison, District Judge, Empire.
J. B. March, District Judge, Gorgona.
Thomas E. Brown, Jr., District Judge, Cristobal

Sanitation.

Headquarters, Ancon.

Col. W. C. Gorgas, Chief Sanitary Officer.
Lieut.-Col. John L. Phillips, U. S. A., Assistant Chief Sanitary Officer.
Maj. Robert E. Noble U. S. A., General Inspector.
Harry E. Bovay, Chief Clerk.

Lieut.-Col. Charles F. Mason, U. S. A., Superintendent Ancon Hospital, Ancon.
Surgeon J. F. Leys, U. S. N., Superintendent Colon Hospital, Cristobal.
Surgeon, J. C. Perry, P. H. and M. H. S., Chief Quarantine Officer, Ancon.
Surgeon Claude C. Pierce, P. H. and M. H. S. Quarantine Officer, Colon.
Dr. Fleetwood Gruver, P. H. and M. H. S., Quarantine Officer, Panama.
Joseph A. LePrince, Chief Sanitary Inspector, Ancon.
Dr. A. E. Mayner, Acting Health Officer, Panama.
Dr. M. E. Connor, Health Officer, Colon.

Disbursements.

Headquarters, Empire.

Edward J. Williams, Disbursing Officer.
Wm. M. Wood, Assistant Disbursing Officer.

Examination of Accounts.

Headquarters, Empire.

W. W. Warwick, Examiner of Accounts.
T. L. Clear, Assistant Examiner of Accounts.

Purchasing Department.

Headquarters, Washington, D. C.

Capt. F. C. Boggs, U. S. A., General Purchasing Officer.
C. E. Dole, Chief Clerk.

Capt. Courtland Nixon, Purchasing Agent on the Isthmus.
Maj. Wendell L. Simpson, U. S. A., Purchasing Agent, 24 State Street, New York City.
Lieut-Col. Geo. B. Davis, U. S. A., Assistant Purchasing Agent, Custom House, New Orleans, La.

Panama Railroad Company.

Headquarters, Colon.
(General offices, 24 State Street, New York.)

J. A. Smith, General Superintendent, Colon.
Lieut. Frederick Mears, Chief Engineer.
F. R Blunt, Trainmaster.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Panama	P. R. R.	Friday	Jan. 28
Allianca	P. R. R.	Thursday	Feb. 3
Colon	P. R. R.	Thursday	Feb. 10
Advance	P. R. R.	Wednesday	Feb. 16
Panama	P. R. R.	Wednesday	Feb. 23
Allianca	P. R. R.	Tuesday	Mar. 1
Colon	P. R. R.	Monday	Mar. 7
Advance	P. R. R.	Saturday	Mar. 12
Panama	P. R. R	Friday	Mar. 18
Allianca	P. R. R.	Thursday	Mar. 24
Colon	P. R. R.	Thursday	Mar. 31

CRISTOBAL TO NEW YORK.

Advance	P. R. R.	Thursday	Feb. 3
Panama	P. R. R.	Wednesday	Feb. 9
Allianca	P. R. R.	Tuesday	Feb. 15
Colon	P. R. R.	Tuesday	Feb. 22
Advance	P. R. R.	Monday	Feb. 28
Panama	P. R. R.	Monday	Mar. 7
Allianca	P. R. R.	Sunday	Mar. 13
Colon	P. R. R.	Saturday	Mar. 19
Advance	P. R. R.	Friday	Mar. 25
Panama	P. R. R.	Thursday	Mar. 31
Allianca	P. R. R.	Wednesday	Apr. 6
Colon	P. R. R.	Tuesday	Apr. 12

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

NEW YORK TO COLON.

Metapan	U.F.C.	Thursday	Jan. 27
Prinz Joachim	H.-A.	Saturday	Jan. 29
Zacapa	U.F.C.	Thursday	Feb. 3
Ortona	R.-M.	Saturday	Feb. 5
Almirante	U.F.C.	Thursday	Feb. 10
Prinz Aug. Wilhelm	H.-A.	Saturday	Feb. 12
Santa Maria	U.F C.	Thursday	Feb. 17
Tagus	R.-M.	Saturday	Feb. 19
Metapan	U.F.C.	Thursday	Feb. 24
Prinz Joachim	H.-A.	Saturday	Feb. 26
Zacapa	U.F.C.	Thursday	Mar. 3
Oruba	R.-M.	Saturday	Mar. 5

COLON TO NEW YORK.

Metapan	U.F.C.	Saturday	Feb. 5
Tagus	R.-M.	Wednesday	Feb. 9
Zacapa	U.F.C.	Saturday	Feb. 12
Prinz Joachim	H.-A.	Tuesday	Feb. 15
Almirante	U.F.C.	Saturday	Feb. 19
Oruba	R.-M.	Wednesday	Feb. 23
Santa Maria	U.F.C.	Saturday	Feb. 26
Prinz Aug. Wilhelm	H.-A.	Tuesday	Mar. 1

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

NEW ORLEANS TO COLON.

Abangarez	U.F.C.	Saturday	Jan. 29
Atenas	U.F.C.	Saturday	Feb. 5
Turrialba	U.F.C.	Saturday	Feb. 12

COLON TO NEW ORLEANS.

Abangarez	U.F.C.	Tuesday	Feb. 8
Atenas	U.F.C.	Tuesday	Feb. 15
Turrialba	U F.C.	Tuesday	Feb. 22

COLON TO BARBADOS, CALLING AT TRINIDAD.

Ortona	R.-M.	Tuesday	Feb. 15

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, FEBRUARY 9, 1910. No. 24.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

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Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Dredge Caribbean Inside the Shore Line.

The sea going suction dredge *Caribbean*, of the dredging fleet in the Atlantic entrance, has begun to work inside the shore line of Limon Bay. This dredge draws 13½ feet of water with its bins empty, and prior to this time its operations have been confined to the dredged channel in the bay. The ladder dredges, working in advance, have been digging inside the shore line for over a year, and two weeks ago they completed a cut of sufficient depth, outside the shore line, to allow the big suction dredge to run in, turn around, and begin pumping in the channel inside. The *Caribbean* is working from a point 4½ miles from the 41-foot contour in the bay, out to deep water, and, in addition to its work of broadening and deepening the channel in the parts where the character of the bottom will permit of operations by a suction dredge, it is maintaining the channel already excavated, relieving the other dredges entirely of maintenance work.

Hydraulic Fill of Gatun Dam.

The surface of the hydraulic fill in the east half of Gatun Dam is at 40 feet above sea level. From this time forth the filling will advance with greater rapidity than for some months past, because the three 20-inch suction dredges which are pumping sandy clay into the Dam will be assisted by three 20-inch relay pumps. Two of the dredges are pumping material from the flats, north of the Dam, and the relay pumps to assist them are erected on the north toe. The third dredge is pumping from the river bottom, south of the Dam, and the pump to assist it is installed on the south toe.

One of the relay pumps was put in operation on January 23, another on January 30, and the third will be at work in a few days. They are 20-inch centrifugal pumps, each direct-connected to a 550-horse power induction motor run by current generated at the Gatun power plant. The houses, in which the pumps are installed, are of corrugated iron, with concrete floors. These pumps are necessary because the suction dredges were designed to operate against a head, including friction, of only 75 feet, whereas the total load has been over 100 feet with consequent reduction in the output of the dredges. The friction in the pipe lines has been equivalent to a 2 or 2½ foot lift per 100 feet of pipe, and the length of the pipe lines has run from 2,000 to 4,500 feet. The actual lift has been as high as 45 feet above sea level. The relay pumps are installed at such elevations and distances as to take an average of about one-half the load until it becomes necessary to install additional relays for the higher elevations of the Dam, which is to be built to 115 feet above sea level.

The hydraulic fill is held in position by two mounds of rock and earth, and the water that flows off after the material has been deposited is drained through these mounds, or toes, in 20-inch pipes.

The method of constructing the hydraulic fill of the Dam is that which was used in constructing the model dam, in which the water-borne material was deposited along the two toes and the surplus water was drained from the interior.

Commissary Improvements.

A new ice making unit, including an ice tank with accessories, has been ordered for the cold storage plant at Cristobal. The present ice making plant is turning out about 80 tons of ice a day, which is ten tons more than the rated capacity. With the addition of the new unit, it will be possible to make 100 tons of ice each day, thereby relieving the shortage. Work on the foundations for the plant has been begun, and it is expected that the material will be delivered in time so that ice may be manufactured about the first of April. The restrictions on the amount of ice supplied to customers will be continued until the new plant is in operation.

The ice box at the Hotel Tivoli is in process of reconstruction, and a refrigerating machine for keeping the box cool will be installed in the near future.

The commissary at Porto Bello, with its cold storage facilities, is nearing completion. The Corozal commissary will be occupied within a few days.

Ladder Dredge to Dig 41 Feet.

Ladder dredge *No. 6* of the Atlantic dredging fleet, which has been undergoing general repairs, is again ready for work. In addition to remodeling the quarters on deck, and giving the machinery and boilers a general overhauling, this dredge has been so altered that it can now dig to a greater depth than forty feet. This is one of the dredges used by the French in their canal excavation, and it was designed to dig to a depth of about 36 feet, which was more than enough for the canal planned by the French. The channel at the Atlantic entrance has been excavated to a depth of at least 30 feet for the first three and one-half miles of its length, and only one of the dredges, the dipper dredge *Chagres*, is capable of taking out rock to the necessary depth of 41 feet. The remodeled ladder dredge will be placed on the work of deepening the channel to 41 feet below sea level when it becomes necessary to withdraw one of the other ladder dredges for repairs.

Completion of Dock No. 13.

Fender piles are being driven at the north end of dock No. 13, at Cristobal, and when this work is finished, the dock will be completed. It runs along the old French canal and is situated between dock No. 14, at the drydock shop, and pier No. 11, near Cristobal Point. It is 1,239 feet long and 25 feet wide. It was constructed principally for the use of barges in the rock, sand and cement service, but is also used in the freight service between Cristobal, and Porto Bello and Nombre de Dios; and as a landing place for the tug and clapet crews in the dredging fleet. Authority has been requested to erect a shed on the dock to protect material and the baggage of people waiting for the tugs to Porto Bello and Nombre de Dios. The office of the harbor and channel section, and of the sand, rock and cement transportation service of the Atlantic Division is situated on the dock, and the Resident Engineer at Cristobal moved his headquarters from the marine shops to this office, when his jurisdiction was extended to include this service.

Pacific Division Sand Operations.

The sand delivered by the Pacific Division during the month of January aggregated 23,613 cubic yards, or 4,771 cubic yards more than was delivered in December. The distribution is shown in the following table:

DESTINATION.	No. of Cars.	Cu. Yds.
Atlantic Division	620	14,155
Pacific Division	779	9,393
Panama railroad	1	25
Balboa shipways	2	40
Total	1,402	23,613

Deliveries so far this month have shown a material increase, the output for the week ending Saturday, February 5, amounting to over 9,000 cubic yards. The Pacific Division has increased its order to 1,000 cubic yards a day, and the shipments to Gatun are continuing regularly.

The sand towing fleet at present consists of the tug *La Boca* and seven barges. The tug usually makes one trip a day bringing two full barge loads, each containing 500 cubic yards of sand, although on several trips it has had as many as three full barges in tow. According to present plans, two more barges

NOTES OF PROGRESS.

(*Continued.*)

will be added to the service, making a total of nine, so arranged that there will always be three barges loading, three in transit, and three unloading. With this extension of the service, it is expected that a maximum of 12,000 cubic yards of sand can be delivered at Balboa each week.

The track to the loading bin has been completed and trains are now run directly beneath the hoppers, the loading process consuming about 40 seconds to the car. A number of 25-cubic yard, bottom dump cars, belonging to the Panama railroad are employed at present in the transportation of sand from Balboa to Gatun Locks.

Concrete in Gatun Locks.

The amount of concrete placed in the locks at Gatun during the week ending February 5, was 14,820, which is 655 cubic yards more than the previous high record, that of the preceding week. On February 1, there were placed in the locks 2,786 cubic yards, which is 22 cubic yards more than the previous high record for one day, that of January 25. The record by days for the week, and the amount previously laid, are as follows:

	Cubic Yards.
January 31	2,381
February 1	2,786
February 2	2,720
February 3	2,538
February 4	2,301
February 5	2,094
Total	14,820
Previously reported	166,825
Grand total	181,645

There were also laid in the spillway of Gatun Dam during the week 848 cubic yards of concrete.

Lock Construction at Pedro Miguel.

Concrete construction at the Pedro Miguel Locks was increased by 4,360½ cubic yards during the week ending Saturday, February 5, exceeding the previous high record at this point for one week's output by 26½ cubic yards. Nine hundred and thirteen cubic yards were placed on Monday, January 31, or 50 cubic yards more than on any previous day. The record for each of the eight hour working days of the past week follows:

	Cubic Yards.
January 31	913
February 1	732
February 2	713½
February 3	763½
February 4	687
February 5	551½
Total	4,360½
Previously reported	50,367½
Grand Total	54,728

Suction Dredges at Cristobal Marine Shops.

The hull for the 18-inch suction dredge to be used in making the fill at Colon, which is being reconstructed at Cristobal marine shops, is practically completed. The foundations for the boilers and engines are nearly finished, but the machinery itself is not yet on the Isthmus. The hull is that of an old ladder dredge left on the Isthmus by the French and recovered from the banks of the Chagres River, near Frijoles, in 1908.

A space has been cleared on the bank of the French canal, near the marine shops, for the erection of the hull and the handling of the equipment to be used in the reconstruction of the suction dredge *Sandpiper*, which has been transferred from the Pacific Division to assist in making the hydraulic fill of Gatun Dam. The hull will be put together on temporary stocks built on the bank of the canal and will then be launched sidewise. In other parts of the yard at the marine shops, work on the pontoons and the boom of the *Sandpiper* is already in progress.

More Dump Cars Contracted For.

The Washington office has been directed to enter into a contract with the William J. Oliver Manufacturing Company of Knoxville, Tenn., for one hundred 12-yard, steel dump cars, similar in construction to the Western and Oliver dump cars now in use on the Canal. The price to be paid is $1,050 each. The cars will be of the built-up truck bolster type, weigh 31,500 pounds, and will dump on a 45-degree slope, with the door opening 4 feet 4 inches. Fifty cars will be delivered in 105 days, and the remainder within 120 days. These cars are to be used primarily for making the big fill on the relocated line of the Panama railroad across the Gatun River bottom.

New Tug to be Named Miraflores.

The tugboat ordered a short time ago, as an addition to the towing fleet of the Pacific Division, will be named the *Miraflores*, which is also the name of the third station on the Panama railroad, out of Panama, as well as that borne by the last flight of locks at the Pacific end of the Canal. The tug is now under construction at Wilmington, Del., and is to be delivered at Balboa within ten months from the time the contract was signed. The vessel will be fitted with triple expansion engines, and is of the same type as the tug *La Boca*, now in service at Balboa.

French Lock Material to be Used in the Locks.

Some of the cast iron pipe stored at Mount Hope has already been used in the floor of the locks at Gatun as a conduit, and is now buried under the concrete; and more of it is to be used for a similar purpose at Miraflores Locks. The pipe is 8.9 feet in diameter and each section is 6 feet 7 inches long. It was made for the system by which the French contemplated supplying water to the proposed summit level. One hundred and sixty-five of these lengths are to be sent to Miraflores.

Contract Work in Lake Region.

A force of 150 men has been set at work on the hill across the Chagres River from Buena Vista, near Bohio, cutting off an edge of this hill which extends into the ship channel above the 40-foot level. About 75,000 cubic yards of material must be removed. In the highest part, the cut is about 100 feet. The rock is blasted with dynamite and then removed, as the earth is, by hand labor, Decauville cars being used to convey the material to the dumps near by.

About 350 men are engaged on the contract work between Bohio and Barbacoas. They work on the "task" or subcontract plan, receiving a certain wage for each carload of material dumped. The experience on other parts of the work, where it has been possible to employ West Indian negroes under the task system, has been duplicated in this work, where at least 100 per cent more energy is displayed than where the men are paid by the hour. The laborers begin at 6 o'clock in the morning and quit as soon as they have earned from $1.25 to $1.50, which is usually about 1 o'clock in the afternoon. The contractor states that the pace at which the men work is so high that he does not believe it would be possible for the men to maintain it more than six or seven hours a day.

A Steam Shovel Record.

On February 3, seventeen shovels working in the Culebra Construction District of the Central Division, excavated 25,274 cubic yards, an average of 1,487 cubic yards for each shovel during the eight hour working day. The total number of hours under steam was 136, and the total number of hours that the shovels were actually loading was 93 hours and 20 minutes. These shovels loaded 1,256 Lidgerwood flats and 141 ten-yard Western dump cars, a total of 1,397 cars.

Pier No. 11.

The machinery for one of the cement conveyors, by which the cement ships will be unloaded at pier No. 11, has been erected and a test has been made. Some minor alterations are necessary before the conveyor can do the work for which it is designed, namely, lift cement barrels on an endless chain from the hold of a ship to the deck, deposit them on a cross conveyor which will deliver them to another endless chain elevator, by which they will be dropped into a barge tied alongside the ship. Some difficulty has been experienced in adjusting the cross conveyor. A description, with an illustration of the cement unloading plant that will ultimately be installed at pier No. 11, was published in THE CANAL RECORD of October 13.

The switching track which extends into the bay from the north end of pier No. 11, in order to allow trains to be switched to the track along the cement dock, is being riprapped with rock from Culebra Cut. The action of the waves during the period of "northers" makes this extra protection for the trestle necessary.

Balboa Notes.

Considerable progress has been made in the removal of the old hulks from the area included in the proposed inner harbor at Balboa. The wrecks of four old French barges and clapets, and of one drill barge, have been floated and towed to the marine graveyard over on the point, near Farfan, where they can be dismantled at some future time, if it is decided to be profitable to do so. By patching up the holes with lumber or concrete, and pumping out the water, the hulks have been floated without difficulty.

A dredge removed a quantity of silt from the channel alongside the Panama railroad wharf during the latter part of January to enable the *Chatham*, a steamer laden with lumber for the Canal Commission, to dock. The *Chatham* drew 20 feet of water, and at low tide, the channel was not deep enough to keep the vessel afloat.

Two 10-inch centrifugal pumps, each of 2,000 gallons capacity per minute, are being installed at the sewer sump in Colon. These pumps have direct connection with 35-horsepower Westinghouse induction motors and will operate on the 3-phase 440-volt 25-cycle circuit direct from the power house at Gatun.

EXECUTIVE ORDER.

Recommendations Regarding Appointments in Executive Civil Service.

The Executive Order of February 20, 1908, prescribing the procedure to be observed in submitting recommendations affecting the method of appointment in the classified service, will be amended by adding to line five after the word "Rules" the following:

> or proposing any exception to the requirements of said Act or Rules, or Labor Regulations, in either the classified or unclassified service:

and by adding to line 16 after the word "Congress" the following:

> in which case it shall be made through or as authorized by the head of the department.

As amended the Order will read:

Hereafter the following procedure shall be strictly observed by officers and employes in the Executive Civil Service in submitting any recommendation affecting the method of appointment to any position or class of positions now included or which may be included in the classified service under the operation of the Civil Service Act or Rules, or proposing any exception to the requirements of the said Act or Rules, or Labor Regulations, in either the classified or unclassified service:

> Every recommendation shall be accompanied by a full statement of the reasons therefor, and, if approved by the head of the proper department or independent bureau, shall be referred to the Civil Service Commission, which body shall submit a report thereon to the President.
>
> No recommendation of the character mentioned shall be submitted by any officer or employe, directly or indirectly, to Congress or to any committee or member of Congress, except in the manner herein provided unless such recommendation shall be called for from such officer or employe by the Senate, the House of Representatives or the Congress, in which case it shall only be made through or as authorized by the head of the department.

WM. H. TAFT.

THE WHITE HOUSE,
January 12, 1910.
[No. 1153.]

New Road at Culebra.

After the heavy rains of November 17, part of the highway in Culebra, leading from the railroad station to the offices and residences in the village, began sliding toward Culebra Cut, and before the movement ceased the road had been rendered impassable for vehicles. Since then the road that runs from the village to the station back of the Administration building and connects with the old highway near the station has been used, necessitating a detour of several hundred yards. A strip of road is in process of construction that will connect the station directly with the road which runs back of the Administration building.

Panama Railroad Work.

The trestle on the relocation of the Panama railroad between Miraflores and Corozal has been completed as far as the second crossing of the operated line, and the filling by spoil trains from Culebra Cut has been begun. Work is in progress on the diversion of the present main line, in order that trains may run west of the trestle, while the fill is being made.

A gravel pit is being opened by the Panama railroad, along the Chagres River, a short distance above Gamboa bridge. A steam shovel will excavate the gravel to water level and then a clam shell dredge will carry on the work. The gravel will be stored along the bank of the river above the highest point reached by the floods of the past rainy season and will be used as needed on the ballasting of the relocated line, and in concrete.

A shed to shelter passengers waiting for trains at Mt. Hope has been authorized and the construction will be begun as soon as the shed now being erected at the Balboa terminus in Panama is completed. Since the tugs for Porto Bello and Nombre de Dios have been leaving Dock 13 in Cristobal, instead of Dock 11, the Mt. Hope station has been more used than ever before.

The 500 steel flat cars of 100,000 pounds capacity, used on the Panama railroad in the transportation of Commission freight, are being overhauled at the Panama railroad shops in Cristobal and given a coat of coal tar paint. This work was begun on January 20, and the cars are turned out at the rate of ten a day.

Empire Steam Shovel Shop.

About a year ago a swing circle for a steam shovel was ordered in the States to be made in one solid casting of cast steel, the object being to compare the service it would give with that given by the structural steel swing circles with which the steam shovels are equipped by their makers. After a year of hard work in Culebra Cut the shovel on which the cast circle is mounted is in the shop for repairs, and no work whatever will be necessary on the casting. The circles made of structural steel need rebuilding about once a year.

Several bars of vanadium steel have been purchased for a test at Empire shops. This metal will be used in making bolts to fasten dipper teeth to the steam shovel dippers, taking the place of the rivets now in use.

Work at Gorgona Shops and Foundry.

All but about fifty of the seventeen hundred wooden flat cars used with the unloading plows have been rebuilt, and the remainder will be finished within a few weeks. This work was begun over two years ago. Each car when sent into the shop for rebuilding has all its woodwork renewed; is fitted with high stake pockets, bull nose guards on the ends of the high side, and is given other repairs and additions suggested by experience on Canal work. All the iron on the cars is reclaimed and the bolts are rethreaded and used again.

The Atlantic Division has placed orders for a new track shifter of the regular type; for collapsible steel forms for the D street sewer concrete work in Colon; a flight conveyor for carrying empty barrels from the cement shed at the forebay concrete mixing plant at Gatun Locks, to the refuse pile; for six 90-degree elliptical elbow collapsible steel forms, and the rebuilding of 30 sections of collapsible forms, for lateral culverts in the locks.

Old French Locomotives.

Thirteen of the locomotives left by the French are in use on construction work as stationary boilers to furnish steam to various equipment. Four of these are at the Dam and Spillway in Gatun, and one on municipal engineering work at that place. One is utilized for furnishing steam for the pumps in the excavation at Santa Cruz, and one is in service at Gorgona. In the Pacific Division, four are in service at Pedro Miguel Locks, and two are held in reserve at Miraflores. These engines are in addition to those used as locomotives on the construction work.

CONCRETE BUILT BARGES.

Three of this Type will be Constructed for Pacific Division Hydraulic Plant.

Work will be commenced shortly on the construction of three concrete barges, to be used in supporting the dredging pumps for the hydraulic excavating and pumping plant of the Pacific Division. They will be built near the site of the hydraulic pumping station at a point on the Canal, nearly opposite Corozal.

While the construction of barges from concrete is not a new idea, its adaptation is not known to have hitherto been attempted in American engineering. Concrete barges have been successfully used in Italy during the past few years, and recently the use of this material in the construction of floating craft in that country was extended to the building of transfer boats, a type of vessel similar to the New York car ferries. The plans of the Pacific Division barges contain numerous modifications from the Italian type, some to meet local conditions, and some, because of the continual improvement in concrete construction methods.

Each of the Pacific Division barges will be 64 feet long by 24 feet wide, and will have a depth of 5 feet 8 inches. The interior beams and columns will have a spacing of 10 feet longitudinally and 8 feet transversely. Wooden forms will be used in their construction and the barges will be launched sidewise. Two interior longitudinal walls will extend throughout, with a bulkhead at each end, forming an interior compartment 40 feet long by 8 feet wide. The interior form work will be built in collapsible sections, so that the latter can be removed readily as the work advances. The frames for the hull will be constructed first, and the preliminary work will consist of the erection of supports on which wooden forms will be placed.

The wall construction will consist of one layer of ½-inch mesh No. 12 wire cloth; ½-inch transverse rods spaced 8 inches on centers, and ½-inch longitudinal rods spaced 12 inches on centers, all securely fastened to the reinforced concrete frame work described above. The side walls and bottom of the barge will then be formed by laying on several coats of plaster made of portland cement mortar, and troweled down to a hard surface. The plaster will be laid on first from the outside, and an additional coat laid on from the inside, so as to thoroughly cover the ½-inch mesh and steel rods.

The deck of the barge will consist of concrete slabs 3½ inches thick, having spans of 10 feet in length and 8 feet in width, reinforced with ½-inch rods, both longitudinally and transversely. Wells are provided for pumping.

The dredging pump, motor and equipment, weighing approximately 60,000 pounds, will be located near the middle of the barge. The maximum draft of the barges, when loaded, will be about three feet. They can be moved readily from one place to another in the channel, and each will be equipped with four mooring bits situated a few feet back from each corner, secured to the barge by long bolts imbedded in the concrete of the side columns and diagonals.

The barges will be erected on cribbing built for the purpose, and launched from ways, on the west bank of the basin, a short distance south of the Miraflores lock site.

PANAMA RAILROAD IN 1908-09.

Earnings of Railroad and Steamship Line, Compared with Previous Year.

The total earnings of the Panama Railroad Company, and the Panama Railroad Steamship Company, for the fiscal year ending June 30, 1909, according to the sixtieth annual report of the Board of Directors, recently issued, amounted to $5,715,517.16, as compared with $5,999,992.07 for the fiscal year 1908, a decrease of $284,474.91. The operating expenses for 1909 were considerably less, however, aggregating $3,699,678.60, as compared with $4,469,507.71 for the previous year, a decrease of $769,829.11, making an increase in the earnings over operating expenses of $485,354.20.

The total railroad earnings were $4,267,161.85 in 1909, as compared with $4,541-437.79 in 1908, a decrease of $274,275.94. The earnings of the railroad for the transportation of all kinds of traffic show the following decreases: Through commercial freight, $149,817.77, or 10.45 per cent; local commercial freight, $6,591.84, or 1.71 per cent; local Isthmian Canal Commission freight, $115,273.38, or 11.27 per cent; miscellaneous earnings, $140,670.76, or 14.86 per cent, a total decrease of $412,353.75, or 10.88 per cent. The passenger earnings, including transportation of mails, baggage, express and treasure, increased $138,077.81, or 18.36 per cent, making the net decrease on traffic earnings $274,275.94, or 6.04 per cent.

The freight traffic from New York and gulf ports showed a decrease of 9,526 tons to South Pacific ports, and 7,651 tons to Central America and Mexico. Freight from the above points to San Francisco, however, showed an increase of 14,837 tons, and to Panama, of 2,594 tons. From Europe, freight shipments decreased 15,062 tons to South Pacific ports; 8,728 tons to Central America and Mexico; 387 tons to San Francisco, and 5,483 tons to Panama. To Europe, there was an increase of 1,770 tons from South Pacific ports, and decreases of 18,690 tons from Central America and Mexico; 80 tons from San Francisco, and 30 tons from Panama. To New York and gulf ports, there were increases of 10,445 tons from South Pacific ports, and 4,231 tons from Central America and Mexico; decreases of 6,369 tons from San Francisco, and 1,140 tons from Panama.

The freight carried over the railroad for the fiscal year 1909, including that of the railroad company, amounted to 1,160,304 tons of 2,000 pounds, or 40 cubic feet each, as compared with 1,184,649 tons in 1908, a decrease of 2.06 per cent. The gross earnings per ton in 1909 averaged $2.30, as compared with $2.48. in 1908, a decrease of 7.26 per cent. The total revenue freight traffic over the road in 1909, including both merchandise and coal, was 1,120,181 tons, a decrease of 24,738 tons, or 2.16 per cent, from the previous year. The revenue therefrom was $2,571,157.99, a decrease of $271,682.99, or 9.56 per cent. In addition to the above, 40,123 tons of company freight, 2,900 tons of mails and excess baggage, and 2,535 tons of express, were hauled. The southbound freight tonnage was 72.29 per cent of the total. The through freight traffic was 32.86 per cent of the total tonnage, as compared with 35.50 per cent in 1908. Coal, including that of the company, comprised 52.63 per cent of the southbound traffic.

A total of 555,908 first class passengers was carried in 1909, as compared with 479,586 in 1908, an increase of 15.91 per cent. The number of second class passengers carried aggregated 1,328,390, as compared with 906,059 in 1908, a gain of 46.61 per cent. The total increase in passengers carried was 498,653, or 35.99 per cent. The passenger earnings showed an increase, from $526,846.86 in 1908, to $669,933.54 in 1909, an increase of 27.16 per cent. The revenue from through passengers showed a decrease of $1,599.88, or 6.07 per cent, and the number of such passengers, an increase of 232, or 3.94 per cent. Local passengers showed an increase of $144,686.56 in revenue, and 498,421 in the number carried.

The total earnings of the company's steamship line were $1,448,355.31 in 1909, a decrease of $10,198.97, or 0.70 per cent, from 1908. The operating expenses, however, were much less than in 1908, aggregating $1,343,359.33, a decrease of $295,005.62. Freight traffic increased 19,578 tons, or 9.79 per cent, but the revenue therefrom showed a decrease of $16,901.02, or 1.95 per cent. The number of passengers carried increased 708, and the increase in revenue from carrying the mails was $10,964.48. Of the total tonnage transported, 103,606 tons were carried by the company's steamers, and 116,019 tons by chartered steamers.

Mess on Relocation Dumps.

A mess has been opened at the dumps of the Central Division, on the relocation of the Panama railroad opposite Santa Cruz, for the accommodation of the men who find themselves so far from any of the Commission mess halls at noon as to make it extremely inconvenient for them to get their lunch. At present about 130 European laborers, 50 negroes, and 20 gold employes take their noonday meal there, each class in a separate mess. The gold employes and European laborers are served at tables under the shelter of awnings, and the negroes take their food from the kitchen and eat it wherever they wish.

Repairs to the Culebra.

The suction dredge *Culebra* was beached on Culebra Island on Sunday, February 6, where it will undergo numerous repairs, including the scraping and repainting of its hull, the installation of a new shaft, protector bushings, suction pipe, suction heads, and the replacing of other defective, or worn out parts. A temporary machine shop and mess has been established on Culebra Island to facilitate this work. Later, the dredge will be transferred to the gridiron at the Balboa shipways, where the final repairs will be made. The present general overhauling will be the most extensive given the vessel since it was first placed in commission at the Pacific entrance to the Canal.

Commissary Notes.

The first shipments of Alaska red salmon, under the contract made last October, have arrived on the Isthmus. The contract was for 2,080 cases of 48 cans each, at $6.25 a case. About 300 cases of salmon are sold every month by the commissaries.

During the very cold weather in the States several shipments of potatoes for the commissaries were damaged by the frost. On the arrival at Cristobal of these potatoes, they were carefully sorted and all the frost-bitten ones that could be detected were thrown aside. Inevitably, however, some escaped detection and patrons of the commissaries may find some damaged potatoes in purchases made within the next few weeks. About 7½ tons of potatoes are sold daily.

Fire Company at Gatun Dam and Spillway.

A volunteer fire company has been organized for the purpose of protecting the Government property at Gatun Dam and Spillway, and the following officers have been elected: President, Michael Carroll; vice-president, Samuel Barnes; foreman, Julius C. Kittell; secretary, Lewis G. Claussen. Besides the officers, there are eight members in the company.

Civil Service Examinations.

An examination for hydraulic engineer in the water resources branch of the Geological Survey, will be held in the Administration Building at Culebra, February 20 and 21. The salaries paid range from $1,200, or less, to $2,400 a year, and will be determined chiefly by the character of the training and experience of the eligibles. Age limit, 20 years. Owing to the limited number of papers to be forwarded to the Isthmus, only five local competitors can be admitted to this examination, and preference will be given to those whose applications are first submitted to the Secretary, Isthmian Civil Service Board, Culebra, Canal Zone.

A civil service examination will be held at Culebra, on Sunday, March 13, to secure eligibles for appointment to the position of clerk under the Isthmian Canal Commission. Male citizens of the United States, between the ages of 20 and 45, may be admitted to this examination. Further information may be obtained from the Secretary of the local Civil Service Board, Culebra, Canal Zone.

Aliens on Gold Roll.

THE CANAL RECORD:

Will you please explain through THE CANAL RECORD the restrictions to employing aliens on the gold roll. The point in question is the maximum amount that they can be employed at for any but special services.

A. H. BEARUP.

Paraiso, January 21, 1910.

[Circular Number 230, published in THE CANAL RECORD of January 13, 1909, covers the point in question. The salary paid does not enter into the rule laid down in that circular.]

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., February 9, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Bevington, Harry
Berg, Wm. H.
Boyce, J. L.
Carpenter, Jerome E.
Cassidy, Edward
Cobban, Harold
Davis, George
Driscoll, John
Eccleston, C. (3)
Gillen, Dr. F. G.
Gilmartin, Chas.
Gunn, Hellen
Harvey, Joseph
McAfee, Carey E.
McFie, W. F.
Martyn, E. Mort
Mason, Aaron
Oliver, Laude
Palmer, A. H.
Pender, Walter I.
Rogers, William
Skinner, Frank
Smith, Alfred E.
Smith, Chas. L.
Suell, C. W. I.
Swinter, Virginia
Titus, Silas J.
Waldrop, John P.
White, Dr.
Wood, C. E.

Launch Service to Taboga.

The steamer *Sanidad* leaves the dredge landing at Balboa at 9 o'clock Tuesday, Thursday and Saturday mornings. On the return trip it arrives at Balboa about 4.30 p. m. in time to make connections for the 5.30 train at Panama.

CONCRETE FOR LOCKS.

Estimate of Amounts Necessary at Pedro Miguel and Miraflores.

An estimate of the amount of concrete necessary for constructing the locks at Pedro Miguel and Miraflores has been made in accordance with the detailed plans. The total for Pedro Miguel is 916,166, as compared with 922,600 cubic yards given in the estimates made in December, 1908. The total at Miraflores is 1,430,200, as compared with 1,328,300 estimated in December, 1908. The amount estimated for the spillway and dam at Miraflores is 75,000 cubic yards, as compared with 68,500 cubic yards estimated in December, 1908. The estimate in detail follows:

PEDRO MIGUEL LOCKS.

	Cubic Yards			
East side wall:				
Forebay	38,166			
Lock	133,610			
		171,776		
Upper approach	21,803			
Lower approach (reinforced)	8,896			
		30,699		
			202,475	
West side wall:				
Forebay	38,166			
Lock	133,610			
		171,776		
Upper approach	21,307			
Lower approach (reinforced)	8,896			
		30,203		
			201,979	
Middle wall:				
Forebay	58,363			
Lock	185,137			
		243,500		
Upper approach	98,627			
Lower approach	115,473			
		214,100		
			457,600	
East floor:				
Forebay		8,776		
Lock		18,280		
			27,056	
West floor:				
Forebay		8,776		
Lock		18,280		
			27,056	
				916,166

Summary:	
Lock	641,164
Approach walls, including core connection with dams	275,002
Total	916,166

MIRAFLORES LOCKS.

East side wall:				
Forebay	42,252			
Upper lock	125,134			
Lower lock	129,956			
		297,342		
Upper approach	24,548			
Lower approach (reinforced)	11,770			
		36,318		
			333,660	
West side wall:				
Forebay	42,252			
Upper lock	122,865			
Lower lock	130,443			
		295,560		
Upper approach (reinforced)	9,608			
Lower approach (reinforced)	11,098			
		20,706		
			316,266	
Middle wall:				
Forebay	65,347			
Upper lock	180,650			
Lower lock	179,757			
		425,754		
Upper approach	102,983			
Lower approach	144,682			
		247,665		
			673,419	
East floor:				
Forebay		9,388		
Upper lock		29,451		
Lower lock		16,800		
			55,639	
West floor:				
Forebay		10,571		
Upper lock		23,844		
Lower lock		16,800		
			51,215	
				1,430,199

Summary:	
Approach walls	304,689
Forebay	169,810
Upper lock	481,944
Lower lock	473,756
Total	1,430,199

MIRAFLORES SPILLWAY.

Main dam	55,000
Piers and footbridge	4,000
Abutments	1,000
Channel walls	13,000
North approach walls	2,000
Total	75,000

Red Cross in the Canal Zone.

To the Chairmen of Local Red Cross Organizations:

In order to perfect the organization for the coming year of what has been the Canal Zone Branch of the American National Red Cross it is desired to form a committee to consist of the chairman of the district organizations, or persons nominated by them. The duties of this committee will be to place in nomination officers for the ensuing year and also to make recommendations in regard to all matters that will come before the general meeting, which will be called as soon as the committee is in position to render a report. Will you kindly act on this committee, or nominate a substitute from your district?

The committee will meet at Gorgona on Saturday, the 12th instant, at 12 o'clock noon, this time and place being considered the most convenient for all the committeemen concerned. Dr. B. W. Caldwell of Bas Obispo will act as chairman of the committee.

Very respectfully,
C. A. DEVOL,
President of the Canal Zone Branch, American National Red Cross.

Culebra, C. Z., February 8, 1910.

During its first organization year the Canal Zone Branch of the American National Red Cross had a membership which comprised 20 per cent of the American population on the Isthmus, a larger proportion of members to the population than in any community in the United States. Many of the people who have left the Canal Zone have shown their preference for the local organization by renewing their membership here. As the first year ended February 1, dues for the second year are payable at any time. It is hoped that all who belonged last year will renew their membership and that many others will join in order that the number of members may not decrease or the organization be hampered in its work by lack of funds. A general meeting will be called in the near future at which officers will be elected and other business of importance transacted.

Lawn Tennis.

The following letter has been sent to all organized lawn tennis clubs in the Canal Zone and Panama:

ISTHMIAN TENNIS ASSOCIATION.
OFFICE OF THE PRESIDENT.
EMPIRE, February 7, 1910.

Sir: A silver cup to be played for by the various clubs of the Isthmus has been offered by and is on exhibition at the Maduro-Lupi Company's store in Panama, and I will thank you to let me know at your earliest convenience your opinion as to how this should be played for.

It has been suggested by members of several of the different clubs that a schedule of games should be arranged to be played on the different courts somewhat as is done with baseball.

Prompt reply is requested in order that the question may be decided in the near future and play commenced under such arrangement as is deemed best by the majority of the clubs, as the dry season is, of course, the best time for it, and this is liable to be of more, or less, short duration.

Respectfully,
W. M. WOOD, *President.*

A number of the Spanish residents of Empire and vicinity have asked that a building be assigned to them in which to hold meetings of an organization they have formed for recreation and instruction. Building 309 at the labor camp between Culebra and Empire known as "Cerro," used during the day as a school for Spanish children, has been assigned for this purpose.

PERSONAL.

Col. J. P. Fyffe of Chattanooga, Tenn., who has been appointed Chief of Police of the Canal Zone, arrived on the *Panama*, at Cristobal, on February 3.

Atlantic Division Excursion.

An excursion for employes of the Atlantic Division was run on Sunday, February 6, from Colon to Balboa, and return. Wherever it was necessary in order to give a good idea of the Canal work, the train was run over the construction tracks. From Bas Obispo to Pedro Miguel, the train ran through Culebra Cut.

Knights of Pythias.

The name, number and location of the Canal Zone lodges, Knights of Pythias, with the names of the officers for the first term of 1910, are as follows:

Panama No. 1, Cristobal—C. R. Chisholm, C. C.; W. S. Lawrence, K. R. S.

Empire No. 2, Empire—S. A. Benninger C. C.; J. B. Anderson, K. R. S.

Culebra No. 3, Culebra—A. B. Kratz, C. C.; G. J. Jones, K. R. S.

Balboa No. 4, Las Cascadas—D. W. Scribner, C. C.; C. A. Shaw, K. R. S.

Lock City No. 5, Gatun—H. A. Porter, C. C.; G. E. Reichenbach, K. R. S.

Paradise No. 6, Paraiso—W. S. Essex, C. C.; P. D. Massey, K. R. S., (Pedro Miguel.)

Chagres No. 7, Tabernilla—E. M. Bridwell, C. C.; C. D. Thaxton, K. R. S.

Ancon No. 8, Ancon—C. W. Boxer, C. C.; S. C. Russell, K. R. S.

Cruces No. 9, Gorgona—C. S. Boyer, C. C.; L. L. Hyer, K. R. S.

A. M. Warner, Las Cascadas, Canal Zone, is the District Deputy Supreme Chancellor of the order.

Resolutions of Sympathy.

The members of the Pedro Miguel Woman's Club wish to express their heartfelt sympathy with their fellow member and associate, Mrs. John Walker and Mr. Walker, in their bereavement by the death of their only son.

Balboa Lodge, No. 4, Knights of Pythias, at a meeting held in Las Cascadas on January 24, adopted resolutions of sympathy on the death of Mrs. Alonzo W. Fox, the wife of one of the members of the lodge.

Crushed Rock Output at Porto Bello.

Rock was crushed at Porto Bello during the week ending February 5, as follows:

	Cubic Yards.
January 31	2,490
February 1	2,866
February 2	2,303
February 3	2,465
February 4	2,290
February 5	2,437
Total	14,851

In order that satisfactory tests of the fuel oil furnished to the Commission may be made, the feed lines from the mains to all storage tanks are to be tapped, and samples of the oil flowing into the tanks are to be sent to the testing engineer at Gorgona. Twenty-five connections will be made with the feed lines.

SOCIAL LIFE OF THE ZONE.

Women's Clubs and Other Features.

The literary meeting of the Cristobal Woman's Club was held at the Commission clubhouse on Wednesday afternoon, February 2, when the program was in charge of the home department. Papers were read on "Other People's Children," and "Mothers of the Isthmus," by Mrs. E. H. Colip and Mrs. Carl Elliott, respectively. Following these, a general discussion was held on the subject of keeping boys and girls at home in the evening. A committee was appointed to confer with the executive council of the Cristobal Union Church in regard to forming some practical plan to provide amusement for one evening in the week for the older children of Cristobal. The art and literature department held its meeting in the clubhouse on the afternoon of February 7. The subject for the day was "Famous Artists and Their Masterpieces." In connection with the program, there was an exhibit of reproductions of paintings. The next meeting of the home department will be held at the home of Mrs. J. L. Storla, house No. 8, Cristobal, on the afternoon of St. Valentine's Day. The subject will be "Valentines." Dr. J. F. Leys, superintendent of Colon Hospital, will speak on infectious diseases at the next literary meeting of the club on February 16. The regular hour of all meetings of the club and the departments is 3 o'clock. The Cecelian Ladies' Chorus has suspended its weekly practice meetings for the present.

At the meeting of the Gatun Woman's Club on Friday, January 28, a schedule presented by the program committee covering the meetings for the next two months, was adopted. The program will be printed and circulated among the members. Committees for carrying on the work of the club were appointed as follows: Literature, Mrs. A. P. McCulloch, Mrs. Vreeland, and Miss Edna Hanna; home, Mrs. J. P. Jervey, Mrs. C. H. Bath, and Mrs. Lang; social, Mrs. William L. Sibert, Mrs. O. L. Brownell and Mrs. W. M. Martin. During the absence of Mrs. Stoddard, Mrs. Perry F. Underhill will act as secretary. The business meeting of the club on Friday afternoon, February 4, was closed with a lesson on parliamentary law.

A dancing club has been organized in Gatun with the following officers: R. M. Sands, president; R. M. Gamble, vice-president; C. H. Ourand, secretary-treasurer. As a board of governors, the following members have been appointed: F. M. D. Bottonfield, S. M. Perkins, L. V. Cooper, W. H. H. Brady, and E. O. Keator. The membership is limited to fifty. The inaugural dance will be held in the new clubhouse on the eve of Washington's Birthday. Thereafter, dances will be held on the last Saturday evening in each month.

An installation of officers for the ensuing six months was held by the Daughters of Rebekah, in Gorgona, on Saturday evening, January 29. Mrs. Ella Babbitt is noble grand; Mrs. Annie Calvit, vice-grand, and Mrs. M. Beetham, recording secretary. The order meets in the lodge hall on the second and fourth Friday evenings of each month at 7.30 o'clock. All members, visiting or resident, are cordially invited to attend.

The Terpsichoreans, a reorganization of the Culebra Bachelor Club, will hold their first dance on the evening of February 12, at the Empire clubhouse. A special train will leave Culebra at 8 p. m.

The Woman's Embroidery Club of Corozal held a card party in the social hall for the residents of the village on Monday evening, January, 31. There were tables for twenty. Six prizes were presented. Home made refreshments were provided by the ladies. Mrs. George H. Vogand is president of the club. The membership is 33. Meetings are held in the social hall every Thursday.

Interest in the Boys' Anti-Cigarette League at Gorgona is well sustained. Section No. 1 has fifteen members, and section No. 2 has a membership of ten older boys. The second section has established a library for circulating books among the boys. The evening meetings are all well attended.

Church Work.

A banquet was held in the Washington Hotel, Colon, in commemoration of the first anniversary of the reorganization of the Cristobal Union Church, on the evening of January 31. The dining room was decorated with bunting and plants. Covers were laid for 136. The Cristobal Union Church was organized in 1908, a reorganization being effected in January of the year following. In connection with the church, there is a Sunday school with a membership of more than one hundred.

Secretary Smith of the Gorgona Y. M. C. A., who has been appointed secretary of the new clubhouse at Gatun, spoke on association work in the chapel at the latter place on Sunday morning, February 6.

The cake sale held by the Woman's Guild of St. Luke's Church in Ancon hall on Monday evening, February 2, was well attended. The committee in charge of arrangements was Mrs. Mason Johnson, Miss Ethel Mason, and Miss Wilhelmina Bryan. The services of the orchestra of three pieces were tendered free of charge.

The proceeds of the sale amounted to $75. A special meeting of the Guild will be held at the residence of the chaplain on Monday afternoon, February 14, when arrangements for the meetings during the lenten season will be completed. The next regular meeting will be held at the home of Mrs. Charles F. Mason on Monday, February 21. Mrs. H. C. Hanson has been elected treasurer in the place of Miss Ethel Mason, resigned.

A special coach will be attached to all passenger trains on which school children are conveyed to and from schools along the line, and only the children and their teachers will be allowed to ride in it unless the other cars become crowded.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Hotel Tivoli, Ancon, on Sunday, February 13, 1910, at 7.30 p. m. The program follows:

1	March—*Flag of Victory*	Von Blon
2	Selection—*The Fair Co-ed*	Luders
3	Mazurka—*La Czarine*	Ganne
4	Overture—*Hungarian Lustspiel*	Keler Bela
5	*a* Two Step—*Mollie Lee*	Morse
	b *Russian Pony Rag*	Ramsay
6	Selection—*Faust*	Gounod
7	Flower Song—*Adoration*	Barnard
8	Waltz—*Idle Hours*	Wood
9	American Fantasia—*Gems of Stephen Foster*	Tobani

Introducing "Come Where My Loves Lies Dreaming," "Old Dog Tray," "Ring de Banjo," "My Old Kentucky Home," "Beautiful Dreamer," "Glendy Burk," "Willie, We Have Missed You," "Nellie Was a Lady," "Hard Times Come Again No More," and "Old Folks At Home."

10	March—*Up the Street*	Morse

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Cristobal on Wednesday, February 16, at 8.15 p. m.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

The indoor baseball game played on the night o February 5, by Gorgona and Culebra, resulted in a score of 18 to 9 in favor of the Culebra team. The line-up of the team was as follows: Gorgona—King, Ridge, Bath, Cuff, L. Ridge, Christeman, Weiser. Culebra—Cushing, Goodman, Dougherty, Fleischman, French, Diehl, Case.

The standing of the players in the local pool and billard tournaments is as follows:

BILLIARDS.

	Won.	*Lost.*		*Won.*	*Lost.*
Vogel	4	1	Rinderle	2	3
Bayne	4	1	French	0	4
Tragsdorf	4	1	Johnson	0	4

POOL.

	Won.	*Lost.*		*Won.*	*Lost.*
Flynn	11	0	Holstead	3	4
McRaven	11	3	Johnson	4	6
Vogel	9	1	Goodman	3	7
Hunter	9	5	McCormack	0	6
Reeves	7	3	Diehl	2	12
Beaman	6	3	Palmer	1	7
Stevens	4	4			

The Edith Harris-Scott Concert Company gave a highly appreciated concert at the clubhouse last Monday evening. A return engagement with an entire change of program, will be given on Tuesday, February 15.

The personnel of the company is: Mrs. Edith Harris-Scott, contralto and reader; Mr. Silas J. Titus, basso; Miss Helen Keil, soprano; Mr. Parvin Witte, tenor, and Mr. C. E. McAfee, pianist and director.

The all-around star indoor baseball team played the regular team Thursday night, February 3, and lost by a score of 14 to 17 in favor of the regular team. The same teams will meet for a second game on Thursday night of this week.

The educational courses will soon begin at Culebra. The English course will be changed to a reading course, taking up the study of the short story from the early writers, to those of Kipling. A first aid to the injured course of lectures with practical demonstrations will also be given here.

EMPIRE.

The smoker given Friday night, February 4, was a great success. The following program was rendered: Parallel bars, Messrs. Bath, Swartzback and Ludwig; views of the Canal Zone, Upson and Thompson; solo, "Roses Bring Dreams of You," P. R. Arentz; farce, "Just Common Nonsense," Wm. Evans, Jr., A. O. Ludwig, George T. Hering, C. T. Walling, J. W. Wilson, accompanied with songs, "My Family Tree," by Wm. Evans, Jr., and "O You Ragging Kid." by George T. Hering; solo, "In Old Madrid," W. G. Ross; remarks, E. R. Gobrecht; address by F. E. Farnsworth of the *Boston Herald*; coon songs, by "George Washington Jefferson Jones"—Lieutenant Lee. Coffee, sandwiches, and cigars were served.

There is a decided increase in attendance at the systematic gymnasium exercises. Don't forget that the class meets every Monday and Thursday nights. Indoor baseball practice is held on Wednesday nights. All interested in basketball are requested to turn out on Thursday night.

The Spanish class will meet every Friday night instead of Monday. The class starts at 7 p. m., sharp, and closes at 8. Miss Frost has consented to teach an advanced class from 8.15 to 9.15, if a sufficient number are interested.

Empire defeated Culebra two out of three games at duck pins on the Empire alleys on February 2, the scores being—Empire, 439, 429, 437; Culebra, 404, 448, 384.

Empire took three straight games in a duck pin match with a team from Gatun on February 5, the scores being—Empire, 422, 429, 442; Gatun, 420, 410, 412. A local duck pin league has been organized consisting of the following teams: Examination of Accounts, Disbursing Office, Empire shops, Central Division office, and Civil Administration. Each team will roll 27 games, the greatest number of games won, deciding the championship.

GORGONA.

The Edith Harris-Scott Concert Company appeared on Friday night, February 4, before a large and appreciative audience. There will be a return engagement on February 17.

CRISTOBAL.

In the local basketball league series, two games were played on the night of February 4, in which the "Swastika Five" defeated the "Knutt-Splitters," the score being 22 to 17. The "Head-Liners" defeated the "All-Stars" by a score of 14 to 4.

In the "Rag Time" bowling tournament, during the month of January, the following scores were rolled by the five high teams: Ten pin "Rag Time"—Bullard and Barte, 1,124; Bullard and Louch, 1,101; Barte and Strong, 1,078; Collins and Barte, 1,078; Bullard and Collins, 1,048. Duck pin "Rag Time"—Barrett and Louch, 577; Bullard and Louch, 566; Barte and Barrett, 554; Frederick and Sanford, 552; Bullard and Frederick, 551.

GENERAL NOTES.

Through the courtesy of the Panama Railroad Company, the boys' department of the Canal Zone Y.M.C.A. was afforded an outing to Taboga Island on Saturday, February 5. A special coach was arranged for to carry them to Balboa, where the tug *Bolivar* awaited their arrival to transport them to Taboga. The morning was spent in swimming in the cove. Luncheon was served in picnic style, and the afternoon was spent in games and a trip through the village of Taboga. About fifty boys and four assistant secretaries made the trip. The Edith Harris-Scott Company accompanied the boys and favored them with several songs. An outing to some other point of interest will be planned at a later date.

Arrangements have been made whereby the Y. M. C. A. can offer educational courses in Spanish, English, history and mathematics to members. See the local secretary for particulars.

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal, Colon and Balboa, during the two weeks ending February 5, 1910, with supplies for the Isthmian Canal Commission:

Colon, January 23, from New York, with 115,500 detonators, 14,000 electric fuses, 49½ tons bolts and nuts, 1½ tons sulphate copper, 50 water coolers, 7½ tons lead pipe, 93 coils manila rope, 1,816 pieces B. I. pipe, 26 tons chain, 50 barrels pitch, 122 bales wire netting, and 300 kegs paint for stock; 104,000 feet triple tape fuse, 75 tons structural steel for 12 movable towers, and 2 turbine pumps for Atlantic Division; 1 narrow gage locomotive, 32 tons steel forms, etc., and 50 pairs rubber boots for Pacific Division; 24 tons steel castings, etc., for construction of locks; 13 tons steam shovel castings for Central Division; 24 tons car castings for Gorgona shops; 83 packages drugs, etc., for Sanitary Department; and a miscellaneous cargo aggregating 5,778 packages, weighing 742 tons.

Prinz August Wilhelm, January 24, from New York, with a miscellaneous cargo aggregating 112 packages, weighing 27 tons.

Cartago, January 27, from New Orleans, with 63,661 feet lumber, 402 switch ties, and 388 cross-ties for stock; 2 tons steam shovel castings for Central Division.

Advance, January 29, from New York, with 26,000 tie plates, 10 tons steel bars and plates, 27,000 feet white pine and basswood lumber, 200 cases Gold Dust, 100 rolls insulating paper, 38 tons bolts and nuts, 16,000 electric fuses, 952 pieces B. I. pipe, 9 tons pipe-fittings, and 1,300 kegs red and white lead for stock; 48 tons steel castings for construction of locks; 13 dredging sleeves, 48 bales rubber hose, 3½ tons steel bushings, and 132,000 feet triple tape fuse for Atlantic Division; 4 steel shafts for Pacific Division; 92 cases incandescent lamps for electrical engineer; 56 packages drugs, etc., for Sanitary Department; and a miscellaneous cargo aggregating 8,221 packages, weighing 1,273 tons.

Clyde, January 30, from New York, with 1 ton castings for Atlantic Division.

Viscaina, February 1, from Baltimore, with 297 tons steel castings and valves for construction of locks; 1,300 car wheels for Gorgona shops; 29 tons dynamite for Atlantic Division; 10,000 sheets corrugated iron roofing, 107 tons steel bars, 218 tons coke, 50,000 brick, 197 tons sewer pipe, 78 tons track frogs, etc., 5 tons wagon repair parts, and 15,320 cases dynamite for stock.

Abangarez, February 3, from New Orleans, with 82,748 feet lumber, 511 cross-ties, 500 timber carriers, and 20,500 gallons kerosene oil for stock; 14,632 feet lumber for Pacific Division; 2,926 feet lumber and 24 tons couplers, etc., for Gorgona shops; 30 creosoted piles for Atlantic Division.

Panama, February 3, from New York, with 71 tons structural steel for movable towers, 29 tons dredge parts, 7 tons dredge castings, 50,000 detonators, and 1 orange peel bucket for Atlantic Division; 23 tons repair parts for handling plant for Pacific Division; 122 tons steel castings for lock construction; one 20-ton crane, 13 tons rivets, 200 steel brake beams, 155 couplers and 600 knuckles for Gorgona shops; 20,500 pounds bran, 15,000 electric fuses, 124,000 tie plates, 102 tons steel bars, 29 tons chain, 200 cases Sapolio, 2,500 gallons turpentine, and 500 garbage cans for stock; 104 packages drugs, etc., for Sanitary Department; and a miscellaneous cargo aggregating 17,000 packages, weighing 919 tons.

Hornelen, January 23 (At Balboa), from Puget Sound, with 574,593 feet lumber, and 5,173 cross-ties for stock; 393,263 feet lumber for car repairs.

BASEBALL.

ATLANTIC LEAGUE.

RESULTS OF GAMES, FEBRUARY 6.

Commisssary-Subsistence, 9; Panama Railroad, 0.
Colon, 2; Civil Administration, 0.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*P.*	*W.*	*L.*	*Pc.*
Com-Sub...	4	4	0	1000	Civ. Adm..	4	1	3	.200
P. R. R....	4	1	2	.200	Colon	4	1	2	.200

SCHEDULE FOR FEBRUARY 13.

Commissary-Subsistence vs. Civil Administration.

P. R. R.	R.	H.	PO.	A.	E.	C.-S.	R.	H.	PO.	A.	E.
Bryan, lf......	0	2	0	0	0	Smith, ss......	2	2	1	0	0
Ellington, 3b.	0	0	0	1	0	McCormick, lf.	2	1	0	0	0
Wood, rf......	0	1	0	0	0	Payoe, 1b.....	1	1	5	0	0
Lewis, c......	0	0	7	3	0	Muggleton, 2b	1	2	2	1	1
Wellar, cf	0	0	0	0	0	Lindberg, cf..	1	1	0	0	0
Vifquain, 2b..	0	1	1	2	1	Beard, rf......	0	1	0	2	0
Dockery, ss..	0	0	2	4	1	Gilmartin, 3b.	1	1	2	0	0
Hillary, 1b...	0	1	8	2	1	McCusty, c....	1	2	11	0	0
Stratton, p....	0	0	0	1	0	Simmons, p...	0	1	0	4	1
Total........	0	5	18	13	3	Total........	9	12	21*	7	2

*Hillary out, not touching second base.

Panama Railroad..............	0	0	0	0	0	0	0—0
Commissary-Subsistence......	0	0	5	0	0	4	*x—9

Runs earned—C.-S., 5. Two base hits—Lindberg, Woods, Hillary. Sacrifice hit—McCusty. Stolen bases—McCormick, Lindberg. Bases on balls—Off Simmons, 2; off Stratton, 1. Struck out—By Simmons, 11; by Stratton, 3. Left on bases—C.-S., 2; P. R. R., 6. Passed ball—Lewis. Umpire—Rohr. Time of game—1.15. Scorer—Rennard.

Civil Admin.	R.	H.	PO.	A.	E.	Colon.	R.	H.	PO.	A.	E.
Farrar, cf.....	0	0	2	0	0	Odea, 3b.......	0	0	0	0	0
Horsey, 2b....	0	0	1	0	1	Souders, cf....	1	1	1	0	0
Bath, 3b......	0	0	1	1	2	Morton, ss.....	0	0	1	1	1
Fleichman, ss	0	0	1	4	0	Jeffries, 2b....	0	0	5	2	0
Edwards, 1b..	0	2	7	0	1	Kenney, c.....	1	1	8	3	0
McKeever, rf.	0	0	0	0	0	Baily, p........	0	0	0	0	0
Johnston, lf..	0	0	1	0	0	Weber, cf, 3b..	0	0	0	0	0
Rex, c........	0	0	5	3	0	Hope, lf.	0	1	0	0	0
Russell, p....	0	0	0	2	0	Sprechen, 1b..	0	1	5	0	0
						Stevens, rf....	0	0	1	0	0
Total.......	0	2	18	10	4	Total........	2	4	21	6	1

Civil Administration..........	0	0	0	0	0	0	0—0
Colon..........................	0	1	0	0	1	0	x—2

Two base hit—Souders. Stolen bases—Edwards (2), McKeever, Johnston, Hope, Sprechen. Bases on balls—Off Russel, 2; off Baily, 3. Struck out—By Russel, 5, by Baily, 8. Hit by pitcher—Farrar. Left on bases—Colon, 5; C. A., 4. Passed ball—Rex. Umpire—Rohr. Time of game—1.12. Scorer—Rennard.

ISTHMIAN LEAGUE.

RESULTS OF GAMES, FEBRUARY 6.

Gorgona, 7; Ancon, 2.
Empire, 8; Marines, 2.
Marines, 5; Empire, 4.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*P.*	*W.*	*L.*	*Pc.*
Gorgona...	11	8	3	.727	Ancon......	9	5	4	.545
Empire....	10	6	4	.600	Marines....	12	2	10	.166

SCHEDULE FOR FEBRUARY 13.

Empire at Ancon.
Marines at Gorgona.

FIRST GAME.

Marines.	R.	H.	PO.	A.	E.	Empire.	R.	H.	PO.	A.	E
Maguire, 1b...	0	0	8	2	0	Bryan, 3b.....	0	1	3	3	1
Scarff, ss......	1	1	2	2	1	Dixon, ss.....	0	2	3	1	1
Hurrle, lf.....	0	0	0	0	0	S. Fluh'ty, rf.	0	0	0	0	0
Snyder, cf....	0	0	1	0	0	Bell, 1b.......	3	2	8	2	1
Heinz, rf 2b...	0	0	5	3	1	Moore, c......	2	1	8	0	0
O'Brien, 2b....	0	0	1	0	0	Christopher, p	0	2	1	2	0
Yetton, p......	1	0	2	4	2	E. Fluh'ty, lf..	0	1	0	0	0
Lubomski, c..	0	0	1	2	0	Markley, 2b..	0	1	1	3	1
Volman, 3b....	0	1	3	2	0	Murphy, cf...	1	1	2	0	0
Burke, rf......	0	0	1	0	0	Toone, rf......	2	1	1	0	0
Totals.......	2	2	24	15	4	Totals.......	8	12	27	11	4

Marines.................	0	0	0	0	0	0	1	1	0—2
Empire..................	0	2	3	1	0	0	2	0	x—8

Runs earned—Empire, 3. Two base hits—Scarff, Christopher. Home runs—Bell, Murphy. Sacrifice hits—Hurrle, Moore (2). Stolen bases—Scarff, Snyder (2), Yetton, Murphy. Bases on balls—Off Yetton, 2; off Christopher, 1. Struck out—By Yetton, 1; by Christopher, 6. Hit by pitcher—By Yetton, S. Fluharty. Left on bases—Empire, 6; Marines, 2. Double plays—Dixon to Markley to Bell; Lubomski to Maguire to Volman. Umpire—Cooling. Time of game—1.35. Scorer—James B. Burke.

SECOND GAME—10 INNINGS.

Marines.	R.	H.	PO.	A.	E.	Empire	R.	H.	PO.	A.	E
Maguire, 1b...	1	1	16	0	0	Bryan, 3b	1	1	2	4	0
Scarff, ss......	1	0	1	1	1	Dixon, ss.....	2	1	4	3	3
Hurrle, lf.....	0	2	2	0	0	S. Fluh'ty, rf..	0	1	2	0	0
Snyder, 2b....	2	1	3	4	0	Bell, 1b.......	0	0	6	0	0
Todd, cf.......	1	1	0	0	0	Moore, c......	0	0	9	1	0
Burke, rf......	0	1	1	0	1	Christopher, cf, p.........	0	0	0	2	1
Lubomski, c..	0	1	6	2	2	E. Fluh'ty, lf.	0	0	1	0	0
Munsen, p.....	0	1	1	8	0	Toone, lf......	0	0	0	0	0
Volman, 3b....	0	0	0	2	0	Markley, 2b..	1	1	4	1	0
						Marshall, p...	0	0	1	3	2
						Murphy, cf...	0	2	1	1	0
Total........	5	8	30	17	4	Totals.......	4	6	30	15	6

Marines..............	0	0	0	2	1	0	0	1	0	1—5
Empire...............	0	0	3	0	1	0	0	0	0	0—4

Runs earned—Marines, 1; Empire, 2. Two base hits—Hurrle (2), Snyder, Lubomski, Maguire, Markley. Sacrifice hits—Burke, S. Fluharty, E. Fluharty, Marshall. Stolen bases—Snyder (2), Bryan, Dixon (2), S. Fluharty (2), Moore. Bases on balls—Off Marshall, 1; off Christopher, 1. Struck out—By Munsen, 4; by Marshall, 3; by Christopher, 4. Hit by pitcher—By Marshall, Todd. Left on bases—Marines, 6; Empire, 4. Double play—Lubomski to Maguire. Umpire—Cooling. Time of game—1.50. Scorer—James B. Burke.

Gorgona.	R.	H.	PO.	A.	E.	Ancon.	R.	H.	PO.	A.	E
Dougherty, 2b.	1	0	4	1	3	Pearman, 3b...	0	0	2	3	1
Magee, lf......	0	2	6	0	0	Nygren, 1b, p.	0	0	7	3	0
Barney, rf	0	1	0	0	0	Keller, lf, 2b..	0	0	4	3	1
Wright, 1b....	1	0	11	0	0	Smith, 2b, 1b..	2	0	7	1	1
Herring, c.....	1	1	3	0	1	Hunter, cf.....	0	1	3	0	0
Cole, ss........	2	3	0	8	0	Yingling, c....	0	1	2	1	0
Clements, cf..	1	1	2	0	1	Tinsley, ss.....	0	0	1	2	0
Emery, 3b	1	1	0	0	0	Frampton, rf.	0	3	1	0	0
Case, p	0	1	1	4	0	Drennan, p...	0	0	0	3	1
						Snyder, lf.....	0	0	0	0	0
Total........	7	10	27	13	5	Total.........	2	5	27	16	4

Gorgona.................	0	3	0	0	1	3	0	0	0—7
Ancon.	0	1	0	0	0	1	0	0	0—2

Runs earned—Gorgona, 4. Two base hits—Herring, Cole (3). Sacrifice hits—Magee, Barney, Case, Hunter. Stolen bases—Wright, Clements (2), Emery, Frampton. Bases on balls—Off Case, 3; off Drennan, 5. Struck out—By Case, 3; by Drennan, 2; by Nygren, 1. Hit by pitcher—By Drennan—Dougherty, Wright, Clements. Left on bases—Gorgona, 15; Ancon, 9. Double play—Case to Wright. Umpire—Sorrell. Time of game—2.25. Scorer—J. K. Munroe.

OFFICIAL CIRCULARS.

Chief of Police.

CULEBRA, C. Z., February 5, 1910.

CIRCULAR No. 305:

J. P. Fyffe is appointed Chief of Police of the Canal Zone, vice Grosvenor A. Porter, resigned.

Effective February 6, 1910.

GEO. W. GOETHALS, *Chairman.*

Department Circulars and General Orders.

CULEBRA, C. Z., February 1, 1910.

CIRCULAR No. 304:

It is directed that this office be furnished copies of all circulars and general orders issued by heads of departments and divisions.

GEO. W. GOETHALS, *Chairman.*

Half Rate Requests for Colored American Citizens.

CULEBRA, C. Z., February 4, 1910.

HEADS OF DEPARTMENTS AND DIVISIONS:

First class requests for half rate transportation on the Panama railroad (Form 121-C. E.) may be issued to colored citizens of the United States upon request. In all such cases, however, the following notation should be made on the request when issued: "U. S. Citizen."

By direction of the Chairman.

Respectfully,
M. B. DEPUTRON, *Assistant to the Chairman.*

Acting Trainmaster, P. R. R.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT.
COLON, R. P., January 31, 1910.

CIRCULAR No. 27:

All concerned—During the absence of Mr. F. R. Blunt on vacation, Mr. F. W. Fitch will act as trainmaster.

J. A. SMITH, *General Superintendent.*

Sale of Unclaimed Shipments.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT.
COLON, R. P., February 5, 1910.

In order to recover freight and storage charges, the Panama railroad will dispose of the accumulation of over and unclaimed shipments now in its possession, by public auction, Tuesday, March 8, 1910, at 9 a. m., sale to be held on Dock 11, Cristobal, C. Z.

The items to be sold consist of a miscellaneous assortment of wines, liquors, household goods, building material, stationery, groceries, dry goods, machinery and merchandise in general, all of which has been held six months and over in an effort to locate owner.

J. A. SMITH,
General Superintendent.

Proposals for Furnishing Rope Sole Slippers (Alpargatos.)

Sealed proposals will be received at the office of the Depot Quartermaster, Mount Hope, until 3 o'clock p. m., February 14, 1910, for the furnishing of two hundred and forty (240) pairs of rope sole slippers of the class locally known as "Alpargatos," American sizes 9, 10 and 11.

Proposals should show the unit price per pair and should be addressed to the Purchasing Agent on the Isthmus, Mount Hope, C. Z., plainly marked—"Proposals for rope sole slippers; to be opened February 14, 1910."

At the time and place above specified the bids will be opened in the presence of attending bidders.

The Government reserves the right to reject any or all bids.

C. NIXON,
Purchasing Agent on the Isthmus.

COMMISSARY DEPARTMENT.

Commissary Delivery Service.

Cristobal, C. Z., February 3, 1910.

In order that a uniform delivery service may be maintained at the several points where commissaries are operated, a notice has been posted in each of the commissaries covering the number of deliveries to be made daily and the hours at which they will be made. Storekeepers have no authority to vary these rules.

Where order-takers are employed, the following rules will govern:

(1) When an order-taker finds no one at home, he will leave a card indicating that he called at the usual hour.

(2) Where construction of houses will permit, the order-taker will call at the rear door and should be permitted entrance to the rear porch. If the family be not ready to give order, he will not wait longer than three minutes, but will leave card and proceed to the next house. He will report all such cases to the storekeeper. In no case will an order-taker be compelled to write his orders in the rain.

JOHN BURKE, *Manager.*

Approved: EUGENE T. WILSON,
Subsistence Officer.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

The Commissary price list remains the same as last week.

January Rainfall for Three Years.

STATION.	1908.	1909.	1910.	Years of record.	Station average.	No. rainy days—1910.
Atlantic Division—	*Ins.*	*Ins.*	*Ins.*			
Porto Bello	......	20.90	14.05	3	12.47	26
Cristobal	3.84	10.61	2.94	40	4.13	18
Brazos Brook	4.30	9.10	4.03	4	4.87	21
Gatun	3.18	7.17	4.81	6	4.75	23
Monte Lirio	2.79	7.94	4.29	3	5.01	28
Trinidad	2.72	7.58	4.28	3	4.86	27
Central Division—						
Bohio	1.59	7.29	4.02	15	6.38	20
Tabernilla	.92	4.58	2.26	3	2.59	14
San Pablo	.80	4.09	2.21	3	2.37	16
Gorgona	......	......	1.60	6	2.06	10
Gamboa	.19	2.77	1.24	25	1.98	17
Empire	.75	2.28	.70	5	1.02	11
Camacho	1.70	3.29	2.00	4	1.77	16
Culebra	.91	2.96	1.31	20	1.92	13
Pacific Division—						
Rio Grande	.75	3.85	1.65	0	1.79	11
Pedro Miguel	.01	3.08	1.82	3	1.64	11
Miraflores	......	4.18	3.58	2	3.88	7
Balboa	.21	1.45	.97	11	1.28	9
Ancon	.12	2.90	1.22	12	1.12	8
Upper Chagres—						
Alhajuela	1.02	2.72	2.99	11	1.44	14
El Vigia	......	3.91	*.68	2	2.30	7

*Station reestablished January 3.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending February 16, 1910 (75th meridian time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	P. M.	P. M.	P. M.
February 10.	3.53	10.13	4.22	10.35	....
February 11.	4.37	10.56	5.02	11.18	....
				MDNT.	
February 12.	5.20	11.38	5.45	12.00	....
		P. M.		P. M.	
February 13.	6.02	12.20	6.26	....	....
		A. M.	A. M.		
February 14.	....	12.43	6.43	1.02	7.07
February 15.	....	1.29	7.28	1.48	7.53
February 16.	....	2.18	8.16	2.36	8.43

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, February 5, 1910.

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft.	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Jan. 30	129.9	96.2	49.8	6.0	1.9	1.4
Monday, Jan. 31	128.7	95.5	49.3	7.7	2 5	1.9
Tuesday, Feb. 1	127.3	94.6	48.3	5.6	1.9	1.3
Wed'esday, Feb. 2.	126.9	94.4	48.0	5.0	1.5	1.0
Thursday, Feb. 3	127.2	94.6	48.0	4.6	1.3	1.0
Friday, Feb. 4	127.5	94.9	48.3	5.5	1.6	1.1
Saturday, Feb. 5	127.5	94.8	48.3	5.5	1.7	1.0

Rainfall, February 1 to 5, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Division—	*Ins.*		*Ins.*
Cristobal	1.01	3	1.09
Brazos Brook	.47	3	.86
Gatun	.81	3	.85
Central Division—			
Bohio	.31	3	.49
Tabernilla	.13	3	.25
San Pablo	.17	3	.38
Gorgona	.39	4	.39
Gamboa	.25	3	.25
Empire	.10	3	.10
Camacho	27	3	.32
Culebra	.13	3	.13
Pacific Division—			
Rio Grande	.14	3	.14
Pedro Miguel	.04	3	.04
Miraflores	.10	3	.10
Balboa	.01	3	.01
Ancon	*T	3	*T
Atlantic Coast—			
Porto Bello, (To 5 p. m., Feb. 5)	1.12	3	1.19
Nombre de Dios	08	2	.14
Upper Chagres—			
El Vigia	.20	3	.20
Alhajuela	.15	3	.15

*Trace.

Proposals for Stable and Other Buildings at Ancon.

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, C. Z., until 3 p. m., February 11, 1910, and then opened, for the erection by contract of a stable building, a hospital stable, a wagon and cart shed and a carriage shed at Ancon. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $300 when the contract is signed. C. A. DEVOL, *Chief Quartermaster.*

Proposals for Excavation in Canal Prism.

OFFICE OF CHIEF QUARTERMASTER,
CULEBRA, C. Z., February 1, 1910.

Sealed proposals for excavation of a section in the Canal prism, near Tabernilla, containing about 36,138 cubic yards, and a section near Bohio, containing about 166,272 cubic yards, will be received here until 2 p. m., March 1, 1910, and then opened. Full information will be supplied by the Division Engineer, Empire. Envelopes containing proposals must be indorsed "Proposals for excavation in Canal prism," and addressed C. A. DEVOL, *Chief Quartermaster.*

LOST—On January 26, a music rack in leather case, either in the forward first class coach of P. R. R. train, or cab No. 118 in Colon. Finder notify J. K. Rakatzky, Gorgona.

WEATHER CONDITIONS, CANAL ZONE, JANUARY, 1910.

STATIONS.	Press're (reduc'd to mean of 24 hours.)	Temperature.					Mean relative humidity.	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches.	Station average per month.	Number of rainy days.	Total movement (in miles.)	Prevailing direction.	Max. velocity (in miles.)	Direction.	Date.
Cristobal	29.887	77.6	82	4	70	28	85	2.94	4.13	18	10.137	N.	31	N.W.	30
Culebra	29.882	76.8	86	13	62	27	88	1.31	1.92	13	6,557	N.W.	30	N.	31
Ancon	29.864	78.8	90	14	63	27	89	1.22	1.12	8	6,439	N.W.	23	N.	21

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Ancon	P. R. R.	Wednesday	Feb. 2
Colon	P. R. R.	Thursday	Feb. 10
Advance	P. R. R.	Wednesday	Feb. 16
Panama	P. R. R.	Wednesday	Feb. 23
Allianca	P. R. R.	Tuesday	Mar. 1
Colon	P. R. R.	Monday	Mar. 7
Advance	P. R. R.	Saturday	Mar. 12
Panama	P. R. R.	Friday	Mar. 18
Allianca	P. R. R.	Thursday	Mar. 24
Colon	P. R. R.	Thursday	Mar. 31

CRISTOBAL TO NEW YORK.

Panama	P. R. R.	Wednesday	Feb. 9
Allianca	P. R. R.	Tuesday	Feb. 15
Colon	P. R. R.	Tuesday	Feb. 22
Advance	P. R. R.	Monday	Feb. 28
Panama	P. R. R.	Monday	Mar. 7
Allianca	P. R. R.	Sunday	Mar. 13
Colon	P. R. R.	Saturday	Mar. 19
Advance	P. R. R.	Friday	Mar. 25
Panama	P. R. R.	Thursday	Mar. 31
Allianca	P. R. R.	Wednesday	Apr. 6
Colon	P. R. R.	Tuesday	Apr. 12

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

NEW YORK TO COLON.

Zacapa	U.F.C.	Thursday	Feb. 3
Ortona	R.-M.	Saturday	Feb. 5
Almirante	U.F.C.	Thursday	Feb. 10
Prinz Aug. Wilhelm	H.-A.	Saturday	Feb. 12
Santa Maria	U.F C.	Thursday	Feb. 17
Nile	R.-M.	Saturday	Feb. 19
Metapan	U.F.C.	Thursday	Feh. 24
Prinz Joacbim	H.-A.	Saturday	Feb. 26
Zacapa	U.F.C.	Thursday	Mar. 3
Tagus	R.-M.	Saturday	Mar. 5

COLON TO NEW YORK.

Nile	R.-M.	Wednesday	Feb. 9
Zacapa	U.F.C.	Saturday	Feb. 12
Prinz Joachim	H.-A.	Tuesday	Feb. 15
Almirante	U.F.C.	Saturday	Feb. 19
Tagus	R.-M.	Wednesday	Feb. 23
Santa Maria	U.F.C.	Saturday	Feb. 26
Prinz Aug. Wilhelm	H.-A.	Tuesday	Mar. 1

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

NEW ORLEANS TO COLON.

Atenas	U.F.C.	Saturday	Feb. 5
Turrialba	U.F.C.	Saturday	Feb. 12
Abangarez	U.F.C.	Saturday	Feb. 19
Atenas	U.F.C.	Saturday	Feb. 26

COLON TO NEW ORLEANS.

Atenas	U.F.C.	Tuesday	Feb. 15
Turrialba	U F.C.	Tuesday	Feb. 22
Abangarez	U.F.C.	Tuesday	Mar. 1
Atenas	U.F.C.	Tuesday	Mar. 8

COLON TO BARBADOS, CALLING AT TRINIDAD

Ortona	R.-M.	Tuesday	Feb. 15

Sailings of the French line (Cie. Cèuèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Cuban* for New Orleans, via Kingston, Ja., on or about February 14.

All Royal Mail steamers mentioned above leave early in the morning from Colon via Kingston, Jamaica, for New York. All mail and passengers should be on board early on day of sailing.

The following vessels arrived at or departed from Balboa in the week ending February 5:

Arrivals—January 29, *San Jose*, from San Francisco; February 1, *Huallaga*, from Callao and south; *Arica*, from Guayaquil; February 4, *Loa*, from south ports.

Departures—January 30, *Mexico*, for south ports; February 1, *Hornelen*, for south ports; February 2, *Manavi*, for intermediate ports.

LOST—On the night of January 29, in the National Theater, Panama, a burnt leather music roll. Return to room 2, ward 13, Ancon Hospital.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, FEBRUARY 16, 1910. No. 25.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications

THE CANAL RECORD

Ancon, Canal Zone,

Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

New Monthly Exhibit.

There is published in this issue of THE CANAL RECORD a new form of table, in place of that used hitherto, giving the results of excavation work. The change has been made in order to include the monthly results of concrete work in the locks and dams, and of dam construction.

Record Excavation in Culebra Cut.

The excavation in Culebra Cut during the month of January, 1,323,693 cubic yards, has been exceeded but once in the history of the canal, in March, 1909, when it was 1,434,597 cubic yards. All the excavation was from the prism of the Canal, and 1,080,894 cubic yards, or over 80 per cent, required blasting. By districts and classes the record is as follows:

DISTRICT.	Earth.	Rock.	Total.
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Bas Obispo	9,017	160,919	169,936
Empire	62,218	506,209	568,427
Culebra	123,902	461,428	585,330
Total	195,137	1,128,556	1,323,693

Ten steam shovels worked during the month in the Bas Obispo District; 22 in the Empire District, and 22 in the Culebra District.

Canal Work in January.

The grand total of Canal excavation in January was 2,831,929 cubic yards, 20,248 cubic yards more than the total for December. Of the 2,831,929 cubic yards, 2,710,405 cubic yards were charged to "work excavation," and 121,524 cubic yards to "plant." The dry excavation amounted to 1,728,755 cubic yards and was principally by steam shovels. The dredges removed 1,103,174 cubic yards in addition to the amount pumped into Gatun Dam by suction dredges. The progress on the locks at Gatun and Pedro Miguel is referred to elsewhere in this issue.

In the Atlantic Division, the total excavation was 709,249 cubic yards, 15,951 cubic yards more than in December. Of this total, 125,011 cubic yards were dry excavation and the remainder was removed by the dredges in the Atlantic entrance.

The total excavation in the Central Division was 1,499,495 cubic yards, 240,962 cubic yards more than in December. Of the total in this division, 1,323,693 cubic yards were taken out of Culebra Cut, and reference to the work in the Cut is made elsewhere in this issue of THE CANAL RECORD.

In the Pacific Division, the total excavation was 623,185 cubic yards, all but 47,341 cubic yards of which was taken out by the dredges at work in the Pacific entrance.

A detailed statement of work in the three divisions follows:

ATLANTIC DIVISION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, Dam and Spillway	125,011	....	125,011
Mindi	....	....	....
Total	125,011	....	125,011
Wet excavation—			
Atlantic entrance	510,055	74,183	584,238
Locks, Dam and Spillway	....	....	....
Total	510,055	74, 183	584,238
Total wet and dry excavation	635,066	74,183	709,249

CENTRAL DIVISION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
All dry excavation—			
Culebra Cut	1,323,693	....	1,323,693
Chagres section	175,802	....	175,802
Obispo Diversion	....	....	....
Total	1,499,495	... .	1,499,495

PACIFIC DIVISION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation—			
Locks, Dams and Spillways	58,899	45,350	104,249
Diversions	....	....	....
Total	58,899	45,350	104,249
Wet excavation—			
Pacific entrance	516,945	1,991	518,936
Miraflores Locks	....	....	....
Diversions	....	....	....
Total	516,945	1,991	518,936
Total wet and dry excavation	575,844	47,341	623,185

TOTAL CANAL EXCAVATION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation	1,683,405	45,350	1,728,755
Wet excavation	1,027,000	76,174	1,103,174
Total	2,710,405	121,524	2,831,929

Mean rainfall along Canal (eleven stations) 2.12 inches.

By "Work" Excavation is meant excavation actually made for one of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc.; that is, it represents material taken from the area to be occupied by the Canal, and constitutes excavation useful for the completed Canal.

By "Plant" Excavation is meant excavation outside of any of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc. It includes material necessary to be excavated for construction purposes only and is chargeable against the particular plant item for which it is performed, such as Prism, Diversions, Locks, etc.

DAM AND LOCK CONSTRUCTION.

MATERIAL.	Atlantic.	Pacific.	Total.
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Fill placed in dams	415,248	28,151	443,399
Concrete laid in dams and spillways	2,586	....	2,586
Concrete laid in locks	54,136	16,273	70,409

Ancon Rock Crushing Plant in Operation.

The rock crushing plant of the Pacific Division on Ancon Hill was placed in operation for the first time on Tuesday, February 8. On Wednesday, the plant was idle, due to the necessity of making some adjustments in the machinery, but during the remainder of the week it was operated steadily, On Tuesday, 23 carloads of quarried rock were run through the machines; on Thursday, 75; on Friday, 92, and on Saturday, 67 carloads. The operations of the past week have been largely for purpose of trial, as numerous adjustments in the working parts remain to be made. When these are completed, the machinery will be given its test under the contract. The rock crusher at Rio Grande, which has been furnishing all of the crushed rock for Pacific Division work, was shut down on Saturday night, February 12, as it is expected that the Ancon plant will be able from now on to supply the lock work at Pedro Miguel, as well as the various other requirements. The present consumption of crushed rock for concrete at the Pedro Miguel Locks is about 700 cubic yards a day. The Ancon rock crushers, when operated at their full capacity, will produce from 2,500 to 3,000 cubic yards a day.

Building Construction Operations.

A contract to furnish the labor and to erect six type-14 houses at Gatun has been let to James A. Wilson for $9,990.

The old French house at East Balboa, formerly used as a quarantine detention station and known as La Folie Dingler, has been sold for $525. The purchaser agrees to tear down the house and remove it. Ancon quarry will then be extended over the site of the building.

Dry Season Rains and Freshet.

An unusually heavy rainfall for the dry season occurred in the territory east of the Canal during the week ending February 12, causing a freshet in the Chagres River. Three inches of rain were recorded at Bohio in three hours on February 7, and 0.65 inches in 15 minutes on the 8th; and the total, between 8 a. m. on the 7th and 8 a. m. on the 8th, was 6.05 inches. Between 6 p. m. on the 7th and 11 a. m. on the 8th, at Porto Bello, 5.32 inches of rain fell, and there were two inches at Alhajuela on the 8th, up to 11 a. m. The rainfall was apparently well distributed over the territory comprised within

NOTES OF PROGRESS.

(*Continued.*)

the triangle of which the apexes are the three points mentioned. A similar fall occurred in the dry season of 1909, between January 27 and February 5. The record at all stations for the week ending February 12 was as follows:

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Division—	*Ins.*		*Ins.*
Cristobal	1 01	3	2.61
Brazos Brook	.97	8	2.20
Gatun	.81	3	2.09
Central Division—			
Bohio	3.51	7	6.59
Tabernilla	.93	8	1.88
San Pablo	.77	8	2.24
Gorgona	1.10	8	1.71
Gamboa	.80	8	1.43
Empire	.32	8	.68
Camacho	60	8	1.05
Culebra	.42	7	.71
Pacific Division—			
Rio Grande	.36	8	.85
Pedro Miguel	.23	7	.41
Miraflores	.54	8	.64
Balboa	.19	7	.42
Ancon	.13	11	.31
Atlantic Coast—			
Porto Bello	2.46	7	4.68
Nombre de Dios	1 82	8	3.61
Upper Chagres—			
El Vigia	1.77	8	2.02
Alhajuela	1.35	8	2.21

No damage was done to Canal work by the resulting freshet in the Chagres River. The river stages for the week ending February 12 were as follows:

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft.	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Feb. 6	127.4	94.6	48.1	4.9	1.7	1.0
Monday, Feb. 7	131.8	97.3	51.3	5.6	1.7	1.4
Tuesday, Feb. 8	139.4	102.3	56.7	18.9	9.8	8.4
Wed'esday, Feb. 9.	129.5	96.4	55.3	18.3	9.9	8.4
Thursday, Feb. 10	128.2	95.1	48.8	10.0	6.6	6.0
Friday, Feb. 11	127.4	94.7	48.6	6.9	3.6	3.0
Saturday, Feb. 12	127.3	94.5	48.2	5.6	2.0	1.5

In the month of January the rainfall was somewhat below the average. The maximum amount was recorded at Porto Bello, where 14.37 inches fell, as against 20.90 inches for January, 1909. The minimum was at Empire, where 0.70 inches were recorded, as against 2.28 in January, 1909, the amount this year, however, being the normal of the years of record. By sections, the rainfall and number of rainy days were:

Section.	*Inches.*	*Rainy Days.*
Pacific	1.94	9
Central	2.51	15
Atlantic	4.75	24

Making Charcoal and Native Canoes.

The contract for clearing the ship channel through Gatun Lake calls for cutting and disposing of the timber and undergrowth. The felling will be finished by the end of February, and the clearing will be completed soon after. In disposing of the trees a quantity of charcoal will be burned, and already fifty experienced charcoal burners, working by the day or under an agreement which insures the purchase of the coal they produce, are preparing kilns, or tending them. The kilns are built of large sticks of wood stacked in cone fashion with the interstices filled with small sticks and kindling. Over the sticks leaves are placed and the whole stack is covered with earth, vents being left in the bottom to regulate combustion. It is expected that about 10,000 bags of charcoal, 45 pounds to the bag, will be produced. The market on the Isthmus is good, because charcoal is the common fuel of the natives and canal laborers. In the area to be cleared only a few large trees have been found. The carocli, cottonwood, and espave trees of suitable size will be made into canoes by natives skilled in that work. It is expected that at least twenty large sized canoes will be fashioned out of these logs.

Concrete in Gatun Locks.

On February 11, there were placed in the locks at Gatun 2,869 cubic yards of concrete, which is the best day's work accomplished since the concrete laying began. The record by days for the week ending February 12 follows:

	Cubic Yards.
February 7	1,564
February 8	2,198
February 9	2,589
February 10	2,670
February 11	2,869
February 12	2,488
Total	14,378
Previously reported	181,645
Grand total	196,023

There were laid in the Spillway of Gatun Dam during the week, 1,076 cubic yards of concrete.

Lock Construction at Pedro Miguel.

Concrete placed in the Pedro Miguel Locks during the week ending February 12, aggregated 3,720 cubic yards. The record for each of the eight-hour working days follows:

	Cubic Yards.
February 7	609½
February 8	661
February 9	834
February 10	449
February 11	475½
February 12	691
Total	3,720
Previously reported	54,728
Grand Total	58,448

Rock and Sand for Gatun Locks.

A total of 59,122 cubic yards of crushed rock was produced at Porto Bello in January, as compared with 42,747 cubic yards in December, an increase of 16,375. The maximum weekly output was 15,491 cubic yards, while the average weekly output was 14,158 cubic yards. The maximum production for one day of 22 hours was 4,090 cubic yards on January 22, and the maximum output for one day of 16 hours was 3,291 cubic yards on January 18.

The record for the week ending Saturday, February 12, was as follows:

	Cubic Yards.
February 7	2,610
February 8	2,863
February 9	1,750
February 10	2,505
February 11	3,050
February 12	2,875
Total	15,653

Twenty-six barge loads of sand, aggregating 15,466 cubic yards, were shipped to Cristobal from Nombre de Dios, for transport to Gatun Locks, in January. The operations are at present in that part of the sand zone lying between the native village and the Nombre de Dios River, on the west. Six acres of ground were cleared, 1,600 feet of new track were laid, and 1,641 linear feet of drainage ditches were dug during the month of January. The force of men employed there numbered 88.

River Mouth Surveys.

On account of the barrier thrown across the Chagres River at Gatun, dredges can no longer be moved from south of the dam to Cristobal through the French canal, but will be compelled to use the Chagres River route down to the mouth, thence by the ocean passage to Cristobal.

A recent survey, made at the mouth of the Chagres River, developed a navigable channel 200 feet wide and 12 feet deep.

A survey has been made in the Mindi River, between the French canal and the Canal prism, where a channel over 9 feet in depth was found. This is now used occasionally by the lighter draft tugs and barges of the Atlantic Division.

Lidgerwood Unloaders in January.

A statement of Lidgerwood cars unloaded on the Central Division dumps during the month of January follows:

LOCATION.	No. of unloaders.	No. of trains.	No. of cars.
Balboa	3	845	16,055
Miraflores	4	694	13,186
Tabernilla	4	1,232	22,176
Total	11	2,771	51,417

Track Shifting.

A statement of tracks raised and thrown by track shifters during the month of January, 1910, in the Central Division follows:

SHIFTER NO.	Location.	Amount.
		Feet.
No. 5.	Tabernilla	285,250
No. 6	San Pablo	23,759
Nos. 1 and 7	Bas Obispo	120,004
No. 8.	Miraflores	89,052
No. 2.	Balboa	160,500
Total		*678,565

*Or 128.52 miles.

Stenographer and Typewriter Examination.

A civil service examination for the position of stenographer and typewriter in the service of the Isthmian Canal Commission and in the nonapportioned civil service in the United States will be held at Culebra on March 20, 1910.

Persons who desire to enter this examination must submit their applications to the Secretary, Isthmian Civil Service Board, Culebra, prior to March 1, 1910. Applications for admission to the examination received after that date will not be considered. Copies of the application form and full information relative to the examination may be obtained from the Secretary, Isthmian Civil Service Board, Culebra.

Two sets of frequency changers will be installed in the power house at Cristobal, in order that the current transmitted from the power plant at Gatun for lighting Colon and Cristobal may be changed from 25 to 60-cycle. Each set consists of a 6600-volt 3-phase 25-cycle synchronous motor, operating a 200 k. w. 2300-volt 3-phase 60-cycle generator.

Piles are being driven for the foundations of the new schoolbuilding for boys in Colon. It will be located on the north side of Second street, between D and E streets, near the beach residence section.

NEW POLICE ORGANIZATION.

Four Central Stations With Substations Take Place of Old System.

The system of policing the Canal Zone was changed on February 1, in accordance with a plan submitted by Lieut. Charles W. Barber, U. S. A., who was Acting Chief of Police at that time. The present organization consists of a Chief of Police, and Assistant Chief of Police at headquarters in Ancon; four lieutenants in charge of central stations; two inspectors, and 242 policemen. Under the system that has been superseded, the Canal Zone was divided into 18 police districts, each with a station house in charge of a commanding officer, and with a detachment of men varying from two to thirty in number, according to the population of the district to be policed.

The reorganization provides for four police districts, the lines of which are coincident with those of the present judicial districts. In each district there will be a central station and several substations, the villages in which the central stations are situated being those in which the district courts hold their sessions. The districts are organized as follows:

Ancon District—Central station at Ancon; substations at Balboa, Las Sabanas, Corozal, Miraflores, and Pedro Miguel.

Empire District—Central station at Empire; substations at Paraiso, Cucaracha, Culebra, and Las Cascadas.

Gorgona District—Central station at Gorgona; substations at Bas Obispo, Matachin, San Pablo, Tabernilla, and Frijoles.

Cristobal District—Central station at Cristobal; substations at Bohio, Gatun, Mount Hope, and Porto Bello.

Each central station will be in charge of a lieutenant of police, who will be accessible by telephone at all times, will direct the work in his district, and inform himself concerning all cases to be brought into court. It is believed that the last named duty of the lieutenant will greatly aid in the despatch of business before the courts. All permanent records will be kept in the central stations, and only a memorandum or blotter will be kept in the substations, thus relieving the smaller stations of an amount of paper work that, under the old system, required most of the time of one man.

As the Canal work advances many of the substations will be abandoned, especially in the Gatun Lake region, where the present town sites will be covered with water. The central stations, however, are located in settlements where it is probable there will be a permanent population, and all improvements made on buildings and grounds will, therefore, have a permanent value.

A comparison of the new and old organizations follows:

New Organization.	*Old Organization.*
Chief of Police, 1.	Chief of Police, 1.
Assistant Chief of Police, 1.	First Lieutenant, 1.
Inspectors, 2.	Second Lieutenant, 1.
Lieutenants, 4.	Sergeants, 12.
Sergeants, 8.	Corporals, 20.
Corporals, 20.	Policemen, first-class, (white) 119.
Policemen, first-class, (white) 118.	Policemen, (black) 96.
Policemen, (black) 96.	In all, 250 men.
In all, 250 men.	

Both the Chief of Police and the Assistant Chief of Police will reside in Ancon, and one of them will be at the headquarters office every day. One of the inspectors provided for in the present organization will inspect all uniformed policemen and instruct them in their duties, and will also inspect the station houses, jails and prison. The other inspector will have charge of investigations and the operations of the detective force.

Ancon Hospital Farming Operations.

The herd of cows at the Ancon Hospital dairy farm will shortly be increased by the importation of twenty-five more from the States. The herd at present consists largely of Jersey stock, and a total of 81 head has been brought to the Isthmus, or raised on the Ancon farm. Out of this number, nine have died and seven have been sold, and there are 67 in the herd at the present time. The farm was started a little over three years ago, and the cost of the milk produced during that period has averaged a little less than eight cents per quart, as compared with 25 cents per quart, the price the Hospital was paying locally for milk previous to that time, and which still obtains.

The poultry farm started a few weeks ago with 215 Brown Leghorn hens and cocks, is to be stocked with two other varieties. An order has gone to the States for 215 Plymouth Rock fowls, 200 hens and 15 cocks; and 110 Rhode Island Reds, 100 hens and 10 cocks. The Plymouth Rocks are well known egg producers. The Rhode Island Reds belong to the American species and resemble to some extent the big Buff Cochins. Their introduction in the tropics will be in the nature of an experiment. The new consignment will give a colony of over 500 hens and cocks at the Ancon Hospital farm, enough, it is expected, when the chicken-raising operations are under way, to keep it stocked to the desired number.

The fowl yard, which covers an area of over an acre, is located near Bishop's Hollow, between the Ancon Hospital road, and the lower road which winds around the hill. It is enclosed with poultry netting six feet high, surmounted by a double row of barb wire, to prevent poaching. The three old French buildings inside the yard are roomy, and have been fitted up with roosts, covered nests, and equipment incidental to the successful raising of poultry. Some of the recent shipment of Brown Leghorns are of the double-comb variety, and these are kept apart, having a portion of the yard and one of the houses to themselves.

The bulk of the food supply comes from the hospital kitchens, and costs nothing more than the labor to collect it. Corn is fed once a day. It has been the plan to feed the fowls in the open, but this has proved impracticable on account of the buzzards which swoop down and devour a large portion of the food.

The hens are developing into good layers. On January 19, a few days after the arrival of the colony, the total production in one day was but 18 eggs. The number increased steadily, and on January 27, the day's production was 68 eggs. The eggs so far have been of a uniform size, and free from blemishes.

Some of the machinery for the 18-inch suction dredge, which is to make the hydraulic fill in connection with the sanitary improvements at Colon, has been received. The hull, on which it will be placed, and which formerly belonged to an old French ladder dredge recovered from the Chagres River, near Frijoles, is being reconstructed at the Cristobal marine shops, and the work is well advanced.

EXECUTIVE ORDER.

Assessments for Sanitary Improvements.

The Isthmian Canal Commission may, from the necessities of sanitation, cause such improvements to be made in the Canal Zone as the construction of streets, roads, and trails, water and sewer systems, and similar sanitary improvements, and may charge such proportion of the cost thereof, not to exceed one-half, to the owners of the property adjacent to, abutting upon, or within the district in which such improvement is necessary and has been made, as may be decided by the Isthmian Canal Commission to be just and equitable.

Due notice of all such improvements shall be given to persons affected thereby together with the estimated assessment, in accordance with rules to be issued by the Isthmian Canal Commission. Any unpaid assessment shall become a lien upon the property affected thereby collectible as provided by law. WM. H. TAFT.

WASHINGTON,
January 26, 1910.
[No. 1158.]

Money Orders in December and January.

Money orders to the value of $460,314.08 were issued by the Canal Zone post-offices during the month of December, 1909, and $422,045.20 in January, 1910. The number of orders was 19,862 in December, and 16,670 in January; amount payable in the United States, $368,612.65 in December, and $320,354.84 in January; payable in the Canal Zone, $91,214.93 in December, and $101,211.26 in January; payable in Martinique, $486.50 in December, and $479.10 in January. The total amount of fees from money order business was $2,088.66 in December, and $1,850.32 in January. Cristobal continues to be the office at which the largest money order business is done, and Gatun has recently outstripped Ancon, Empire, Gorgona, and Culebra in this respect.

Arraigned for Murder.

Benjamin Green, a native of Trinidad, who was employed on the dipper dredge *Cardenas*, at Balboa, was arraigned in the district court at Ancon on Monday, February 14, charged with the murder of a Barbadian laborer named William White. The two men had an altercation on the dredge Wednesday night, February 9, during which, Green drew a knife and fatally stabbed White. The prisoner was bound over to the circuit court for trial.

Collision in Pacific Entrance.

A collision occurred about 10 o'clock Saturday night, February 12, between clapet *No. 5* of the Balboa dredging fleet and a small steam launch called the *Mauretania*. The latter was on its way to Culebra Island with supplies, and on reaching a point near the intersection of the old and new channels, it was struck by the clapet, and sank immediately, carrying down the engineer-fireman, a colored man named Augustus Worm. The launch has had a run of misfortune, having been sunk twice before.

A change has been made in the sailing dates of the New York steamers of the United Fruit Company, from Colon. Heretofore, they have been sailing for Santa Marta and Jamaica, on the return trip, on Saturday of each week, but in future, they will leave on Sunday.

RECORD OF CANAL WORK SINCE AMERICAN OCCUPATION.

MONTHLY TOTALS BY CUBIC YARDS OF EXCAVATION AND LOCK AND DAM CONSTRUCTION.

[*All figures are of work useful for the completed Canal.*]

DRY EXCAVATION.

CENTRAL DIVISION.

MONTHS.	CULEBRA SECTION.*							CHAGRES SECTION.**			
	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1907.	1908.	1909.	1910.
January		70,650	120,990	566,750	1,227,022	1,150,249	1,323,693		169,447	389,399	175,802
February		75,200	168,410	639,112	1,248,265	1,215,648			200,145	428,988	
March		132,840	239,178	815,270	1,290,885	1,434,597			324,233	619,491	
April		126,749	213,177	879,527	1,242,574	1,274,356			329,483	508,410	
May	27,556	75,935	196,209	690,365	960,840	1,126,963			235,902	386,170	
June	32,551	76,905	212,623	624,586	1,134,032	1,242,134			322,145	275,900	
July	31,599	78,570	159,789	770,570	1,121,325	1,200,828			345,757	233,897	
August	35,056	49,210	244,823	786,866	1,173,800	1,173,370		2,900	366,810	231,543	
September	25,220	44,085	291,452	753,468	1,122,860	1,235,978		21,546	346,948	235,818	
October	19,695	52,940	327,009	834,499	1,160,101	1,302,901		25,627	424,911	221,409	
November	28,860	60,540	221,642	790,632	1,022,576	1,070,792		44,044	336,390	93,619	
December	42,935	70,630	307,689	1,025,485	1,210,046	1,152,022		98,652	383,948	105,044	
Totals	243,472	914,254	2,702,991	9,177,130	13,914,326	14,579,838	1,323,693	192,769	3,786,119	3,729,688	175,802

MONTHS.	ATLANTIC DIVISION.					PACIFIC DIVISION.					
	COLON (MINDI)†		GATUN LOCKS, DAM AND SPILLWAY.††			PEDRO MIGUEL LOCKS.‡			MIRAFLORES LOCKS, DAMS AND SPILLWAY.‡‡		
	1909.	1910.	1908.	1909.	1910.	1908.	1909.	1910.	1908.	1909.	1910.
January	45,664		292,155	102,690	125,011		83,726	27,320	7,203	61,202	31,579
February	46,046		282,797	95,031			58,242		39,046	53,689	
March	70,713		374,598	90,051			95,624		73,194	51,417	
April	74,368		373,456	70,009			101,365		98,943	60,060	
May	71,407		266,747	52,786			57,523		73,023	47,588	
June	80,101		244,951	36,556		13,228	70,971		68,691	55,653	
July	82,378		213,359	39,058		22,648	77,503		104,369	50,999	
August	66,249		188,262	40,346		22,217	58,025		94,248	35,446	
September	61,437		145,990	49,945		28,833	48,825		90,923	31,803	
October	72,643		154,064	57,321		48,875	39,002		74,700	25,349	
November	42,009		118,278	63,452		55,401	20,207		52,930	18,644	
December			119,904	96,590		65,578	28,342		69,650	20,083	
Total	713,015		2,774,561	793,835	125,011	256,780	739,355	27,320	846,920	511,933	31,579

*Total to February 1, 1910, 42,855,704 cubic yards.

**Total to February 1, 1910, 7,884,378 cubic yards.

†Total to February 1, 1910, 1,476,821 cubic yards; in this total are included 172,851 cubic yards removed in 1907, and 590,955 cubic yards removed in 1908.

††Total to February 1, 1910, 5,060,214 cubic yards; in this total are included 26,628 cubic yards excavated October to December, 1906, and 1,340,179 cubic yards in 1907; there were also 38,425 cubic yards removed by dredges at Gatun Dam site in 1907.

‡Total to February 1, 1910, 1,023,455 cubic yards.

‡‡Total to February 1, 1910, 1,390,432 cubic yards; there were also 78,233 cubic yards excavated at Balboa locks and dams in 1907, and 139,298 cubic yards at Cardenas Hill, March to December, 1908.

WET EXCAVATION.

MONTHS.	ATLANTIC DIVISION.						PACIFIC DIVISION.						
	ATLANTIC ENTRANCE.§				GATUN LOCKS.		PACIFIC ENTRANCE.§§						Miraflores Locks.§§§
	1907.	1908.	1909.	1910.	1908.	1909.	1905.	1906.	1907.	1908.	1909.	1910.	1910.
January	111,100	490,701	521,050	510,055		97,043		95,940	94,710	460,250	469,529	516,945	
February	110,002	427,722	444,910			132,291		95,940	93,480	663,519	671,477		
March	84,145	546,886	461,208			141,838		116,820	92,319	783,281	865,696		
April	69,889	496,366	470,635			17,938		110,700	104,855	676,539	731,767		
May	133,847	564,386	315,370			52,011		112,340	122,157	530,466	720,753		
June	124,118	572,749	182,575			38,829	50,676	62,697	133,575	656,621	844,685		
July	109,922	625,497	348,451				41,533	98,400	108,338	696,170	733,181		
August	194,297	638,217	422,846				54,530	111,930	168,284	737,774	623,263		
September	403,842	624,776	410,574				114,308	105,780	153,975	750,080	662,976		
October	415,120	505,260	314,778				81,836	97,170	357,122	762,276	720,920		
November	422,797	570,832	457,889				71,176	92,988	365,423	609,089	627,791		
December	442,835	679,604	489,121		8,583		71,094	90,528	349,551	729,960	727,460		
Totals	2,621,914	6,742,996	4,839,407	510,055	8,583	479,950	485,153	1,191,233	2,143,789	8,056,025	8,399,498	516,945	

§Total to February 1, 1910, 16,141,837 cubic yards; in this total are included 399,820 cubic yards excavated in 1905, and 1,027,645 cubic yards in 1906.

§§Total to February 1, 1910, 20,792,643 cubic yards; there were also 172 cubic yards removed by steam shovels during October, 1908.

§§§Total to February 1, 1910, 309,647 cubic yards, all of which was taken out by dredge in 1909.

CONCRETE IN LOCKS AND DAMS.

MONTHS.	GATUN LOCKS.			PEDRO MIGUEL LOCKS.			MIRAFLORES LOCKS.	
	1909.	1910.	1911.	1909.	1910.	1911.	1909.	1910.
January		54,136			16,273			
February								
March								
April								
May								
June								
July							28	
August	1,298						74	
Sept	12,294			2,370				
October	29,378			8,310				
Nov'mber	30,270			10,169				
December	42,832			13,007				
Total	116,072	54,136		33,856	16,273		102	

From March 17, 1909, to February 1, 1910, there were placed in the Spillway of Gatun Dam 53,597 cubic yards of concrete, including 2,586 cubic yards placed in January, 1910; in Miraflores Dam were placed 321 cubic yards up to February 1, 1910.

FILL PLACED IN DAMS.

MONTHS.	GATUN.*		PEDRO MIGUEL.†	MIRAFLORES.‡	
	1910.		1910.	1910.	
	Wet.	Dry.	Dry.	Wet.	Dry.
January	178,254	237,801			41,174
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
Total	178,254	237,801			41,174

*Dry fill begun in January, 1907, and 2,096,477 cubic yards of wet, and 2,405,890 cubic yards of dry fill were placed in 1907, 1908 and 1909.

†170,166 cubic yards placed in dams up to December, 1909, inclusive.

‡144,703 cubic yards wet fill and 520,754 cubic yards dry fill placed to December, 1909, inclusive.

CANAL EXCAVATION TO DATE.

By French Companies		78,146,960
French excavation useful to present Canal		29,908,000
By Americans—		
Dry excavation	59,908,707	
Dredges	37,771,085	
Total		97,679,792
May 4 to December 31, 1904	243,472	
January 1 to December 31, 1905	1,799,227	
January 1 to December 31, 1906	4,948,497	
January 1 to December 31, 1907	15,765,290	
January 1 to December 31, 1908	37,116,735	
January 1, 1909, to January 1, 1910	37,806,571	

TOTALS BY DIVISIONS AND AMOUNT TO BE EXCAVATED.

DIVISIONS.	Amount excavated.		Remaining to be Excavated.	
Atlantic—				
Dry excavation	6,537,035	23,205,830	3,024,876	19,871,480
Dredges	16,668,795		16,846,604	
Central—				
Culebra Cut	42,855,704	50,740,082	35,186,591	39,054,411
All other points	7,884,378		3,867,820	
Pacific—				
Dry excavation	2,631,590	23,733,880	3,298,990	18,060,911
Dredges	21,102,290		14,761,921	
Grand totals		97,679,792		76,986,802

SALE OF SCRAP MATERIALS.

French and American Iron and Steel—Other Materials Collected and Sold.

The amount of scrap materials of various kinds sent to the States for sale increases as the construction work advances, and as the time when the ship channel through Gatun Lake must be clear of all obstructions draws nearer. Old French material forms the bulk of the scrap at the present time, but the amount of materials of American origin no longer useful on the Canal work increases each month. Shipments of American scrap iron and steel were begun in January, when over one thousand tons were sent to New York, along with a less quantity of French scrap.

In July, 1906, French scrap was sent to the States as ballast for the Panama railroad ships, and since then the following amounts have been shipped by years:

	Pounds.
1906 (July to December)	2,591,000
1907	3,414,185
1908	302,600
1909	10,638,684
1910 (January)	4,063,200
Total	21,009,669

The shipping of scrap in large quantities began in August, 1909, when it became necessary to supply ballast for the cement ships *Ancon* and *Cristobal*. Since then the shipments have been as follows:

Ship.	Date.	Sale weight —Pounds.
	1909.	
Ancon	Aug. 7	567,734
Allianca	Aug. 10	170,510 93,600 105,900
Colon	Aug. 16	29,950
Cristobal	Aug. 19	428,850
Panama	Aug. 21	665,350
Ancon	Sept. 8	1,176,000
Ancon	Oct. 10	336,000
Cristobal	Oct. 21	1,019,400
Ancon	Nov. 7	1,281,430
Cristobal	Nov. 20	211,650
Colon	Dec. 9	52,210
Ancon	Dec. 10	1,875,950
Cristobal	Dec. 25	*2,437,300
	1910.	
Ancon	Jan. 16	*508,800 (French) *1,211,500 (American)
Cristobal	Jan. 29	*1,307,000 (French) *1,036,700 (American)

*Shipping weight.

Up to the time of the last shipment of scrap noted in the above table the method of sale was to deliver the material on the dock at Hoboken and there dispose of it to the highest bidder. In January, the Secretary of War sold the French and American scrap to the Maurice Rosenthal Investment Company at $17.20 per short ton which the Company agreed to pay for all scrap delivered at the docks in New York harbor. No distinction is now made between American and French scrap, all being entered subject to duty at $1 a ton, the amount thus collected by the customs authorities reverting to the Canal funds.

Two shipments of scrap rubber have been made, one on the *Panama* on July 6, 1909, consisting of 30,416 pounds, for which the gross receipts were $938.82, and the net revenue, $549.13; and the second shipment on the *Colon*, on December 9, consisting of 36,107 pounds, price received, two and seven-elevenths cents per pound. A shipment of three bales of scrap iron hoops was made on the *Panama* on December 21, 1909.

Shipments to the States of scrap wire screening, or mosquito netting, were begun in February, 1909, and the amounts shipped since then are:

Ship.	Date.	Shipping Weight.
		Pounds.
Allianca	February 25	103,509
Colon	March 27	
Panama	July 6	45,421
Colon	October 2	18,338
Panama	December 21	11,588
Total		178,856

For the shipments sent forward in February and March, 1909, the gross receipts were $7,710 of which, $2,345.27 was paid for handling; gross receipt for shipment of July 6 was $3,540.07, paid for handling, $1,056.11; price per hundredweight received for shipment of October 2, $8.63.

Under the contract with the manufacturers who are furnishing cement for the lock construction, a rebate of 8½ cents per bag is given for all uninjured cement bags returned. The first shipment was made on September 15, 1909, and up to the end of January, 1910, there had been shipped 394,132 bags.

Fewer Arrests in January.

There were 83 fewer arrests in the Canal Zone in January than in December, the difference being largely due to a decreased number of arrests for assault and battery, disorderly conduct, disturbing the peace, and intoxication. There were 28 arrests for loitering; the same number on the charge of vagrancy; 45 for violating the sanitary regulations; two for carrying firearms without a license, and one for violation of the immigration laws. Of the 533 apprehensions, 492 were men and 41 were women.

The effective police force at the end of January consisted of 249 officers and men, a decrease of two for the month. The pay rolls amounted to $19,877,89.

Fifty-nine criminal cases were tried in the circuit courts, nine of which were dismissed, 22 continued, and 25 in which convictions were secured. Twelve persons were given penitentiary sentences; seven jail sentences; one, a jail sentence with fine, and four on which a fine only was imposed. Forty-eight civil cases came to trial, and the sum of $276.72 was collected by the marshal in executions.

The Zone convicts numbered 111 on December 31; received during the month, 12; discharged, 8; total serving sentence at the end of January, 115. Of the prisoners discharged, one was pardoned, and the remainder received a shortening of sentence from 2 to 16 days on account of good behavior. The number of district prisoners on January 31 was 146, a decrease of 20. The prison pay rolls aggregated $1,806.01; cost of prisoners' subsistence, $816, a total expense of $2,624.01 The value of the work performed by prisoners on the Empire-Paraiso and West Culebra roads was $1,715.60.

There were 19 deaths requiring action by the coroner, five of these being due to drowning; five to railroad accidents, and two to homicide. Sixteen deportations were made during the month, one to Peru, three to Barbados, one to Ecuador, one to Guadeloupe, and 10 to Chile. All of the above had a previous police record, with the exception of the Chileans, who had been under arrest since December 25 pending investigation in the case of the killing of the sailor on the Pacific Steam Navigation Company's steamer *City of Mexico*, at Balboa.

STEAM SHOVEL RECORDS.

Work Accomplished by Central Division Steam Shovels in January.

During the month of January the total amount of material excavated in the Central Division was 1,499,495 cubic yards, of which 366,919 cubic yards were classified as earth and 1,132,576 cubic yards as rock. Of this quantity, 1,461,389 cubic yards were removed by steam shovels, 4,687 cubic yards by buckets and crane, 1,386 cubic yards by hand and scrapers, and 32,033 cubic yards by contract.

The high record of the month was made by shovel No. 223, working 25 days in the Culebra District, which excavated 50,933 cubic yards of rock.

The second best record for the month was made by shovel No. 219, working 9 days in the Culebra District and 16 in the Empire District, which excavated 50,270 cubic yards of rock.

The best record for a shovel in the 70-ton class was made by shovel No. 111, working in the Bas Obispo District, which excavated 27,688 cubic yards of earth in 23 working days.

Shovel No. 218 in the Empire District, made the high record for one day by excavating 3,009 cubic yards of rock on January 8.

Shovel No. 111, working in the Bas Obispo District, excavated 1,840 cubic yards of earth on January 22, being the high record for one day for a 70-ton shovel during the month.

Monthly records are computed by place measurement, while the daily records are based on car measurement. The best records for the month and for one day in each district are shown below:

Best Records for the Month.

TABERNILLA DISTRICT.

Shovel No.	Cubic Yards.			No. of days at work.
	Earth.	Rock.	Total.	
132	20,555		20,555	25
125	15,358		15,358	21

BAS OBISPO DISTRICT.

Shovel No.	Earth.	Rock.	Total.	No. of days at work.
220	2,525	39,525	42,050	25
228	1,380	26,220	27,600	22
216		4,636	4,636	3

EMPIRE DISTRICT.

Shovel No.	Earth.	Rock.	Total.	No. of days at work.
232		37,512	37,512	25
229		36,720	36,720	25
219		28,502	28,502	16

CULEBRA DISTRICT.

Shovel No.	Earth.	Rock.	Total.	No. of days at work.
223		50,933	50,933	25
219		21,768	21,768	9

BEST RECORDS FOR ONE DAY.

Shovel No.	Location.	Date.	Character of material excavated.	Cubic yds. excavated.
131	Tabernilla	Jan. 24.	Earth	1,250
132	Tabernilla	Jan. 11.	Earth	1,142
220	Bas Obispo	Jan. 3.	Rock	2,293
228	Bas Obispo	Jan. 18.	Rock	2,144
111	Bas Obispo	Jan. 22.	Earth	1,807
218	Empire	Jan. 8.	Rock	3,009
260	Empire	Jan. 31.	Rock	2,508
126	Empire	Jan. 12.	Earth	969
231	Culebra	Jan. 21.	Earth	2,945
213	Culebra	Jan. 19.	Rock	2,755
109	Culebra	Jan. 7.	Earth	1,520

The pupils of the Canal Zone High School at Cristobal are planning to issue a monthly paper, from March to June, inclusive. They also contemplate the publication of an annual in magazine form at the end of the year.

SOCIAL LIFE OF THE ZONE.

Women's Clubs.

A called meeting of the Gorgona Woman's Club was held at the home of Mrs. A. J. Sweet on Thursday afternoon, February 3, at which time, 12 applicants were admitted to membership. A social meeting was held by the home department, refreshments being served. The art department met at the home of the president, Mrs. Harry Otis, on the afternoon of February 10, for hand-sewing and art needlework. A ladies' chorus is being formed under the direction of Miss M. E. Anderson. As the membership of the club is increasing, the organization of department work will be pushed forward as rapidly as is practicable.

The Gorgona Woman's Club held a Valentine dance and supper in the clubhouse on the evening of February 14. Decorations of palms festooned with hearts, were carried out in the dance hall and in the small game room, where a New England supper of beans and brown bread was served under the supervision of Mrs. George J. C. Cramer. Mrs. George Wright sold tickets in a Valentine booth decorated with appropriate symbols. Mrs. Jack Bromley was in charge of the decorations, and Mrs. Otis was chairman of the ticket sale. The music was furnished by Williams' orchestra. Mrs. E. S. Calvit was chairman of the entertainment committee.

The programs for the meetings of the Gatun Woman's Club have been printed and may be obtained from the officers. The work of the club is divided into three departments—home, literary, and social. Meetings are held weekly on Friday afternoons. On the first Friday in each month, a business meeting is held, followed by a drill in parliamentary law. The subjects for the home department include cookery, hand-sewing, kitchen conveniences, demonstration of recipes, and the care of children. The literary department programs include, in addition to literary topics, papers on pure food laws, and the work of the modern club woman. Two meetings will be held under the social department; on February 25, the Sunshine Society will be entertained, and on March 25, an open evening will be held, when there will be an address on "Life in Mexico," by the Rev. William H. Cross. On Friday, February 11, the club met at the home of Mrs. O. L. Brownell. Mrs. E. S. Waide has been appointed press secretary.

Following the business meeting of the Pedro Miguel club, on February 3, papers on current topics were read by the members. Mrs. Hurley entertained the club at the social meeting on February 9. Under the literary department, a program has been arranged for the next meeting of the club on February 16.

An election of officers will be held by the Paraiso Woman's Club at the close of the present period, about March 19. The social meeting was held in the lodge hall on Wednesday, February 9. The date for the entertainment for the benefit of the club having been fixed for Wednesday evening, February 16, the regular business meeting will be held on the day following. Mrs. R. S. Conley has been appointed secretary *pro tempore* in place of Mrs. T. C. McLaughlin, resigned.

Church Work.

A meeting under the Woman's Foreign Missionary Society of the Methodist Episcopal Church was held at the chapel at Paraiso on the afternoon of February 10, under the direction of Mrs. J. Leon Webster of Ancon, and Mrs. William H. Gray of Panama. Mrs. Webster spoke on Christian work as a duty for women, and Mrs. Gray, on the need for missionary workers.

The meetings of the Culebra Union Sunday school are held in the chapel at 9.30 o'clock on Sunday morning. Evening service is held by the chaplain, Rev. A. A. Nellis, at 7.30 o'clock. On Thursday evening, a prayer meeting is held, beginning at 8 o'clock. Preceding this, the teachers' training class, under the direction of B. F. Warner, holds its session. The class has an enrollment of 12. A similar training class is in process of organization in Gorgona, under Mr. Harvey McConaughey. Eighteen members of the church and Sunday school have enrolled for the study.

Red Cross.

The Gorgona division of the Canal Zone Red Cross held a complimentary entertainment at the clubhouse on Wednesday evening, February 9, when a vaudeville program was given. The president of the Branch, Lieut.-Col. C. A. Devol, was present and made an address on Red Cross work. The program included sketches, vocal solos, quartets, and other musical numbers. Residents of Empire and Camp Elliott took part. There were about 200 present.

Miscellaneous Events.

Informal dances are held in the Corozal social hall by the Corozal Dancing Club on the first and third Saturday, and on the second and fourth Wednesday evenings of each month. The first open dance of the club will be held on the evening of February 19. Special music will be provided for the occasion. The Corozal Club was organized in January, with W. H. Holmes, as president, and H. H. Hammer, as secretary. There are 35 members.

The regular dances of the Pacific Dancing Club at Paraiso, are held on the last Saturday evening of each month. At an election of officers held recently, Harry Bain was chosen president, and W. H. Dorsey, secretary. The Monday evening informal dances at Paraiso continue. A special train is run from Pedro Miguel, and guests from other points along the line frequently attend.

The Paraiso Lodge, Knights of Pythias, initiated five candidates on Tuesday evenning, February 15. A special train ran from Pedro Miguel for the occasion.

The first annual commencement exercises of Cristobal College, conducted by the Brothers of the Christian Schools, were held in the auditorium of the school on January 24. In the absence of Mr. J. C. Kellogg, on account of illness, the exercises were presided over by Governor Melendez. After the entertainment several prizes were distributed to those who were most proficient in their studies during the past scholastic year. Classes will be resumed on April 1, 1910.

Under the auspices of the Corozal Club, the Edith Harris-Scott Company, which has been playing at the Commission clubhouses in the Zone, gave an entertainment at the social hall in Corozal, on Saturday evening, February 12. The Corozal Club was formed in December, its purpose being to equip the social hall with reading matter, games, and other forms of diversion; and to arrange for entertainments and social evenings. The officers are: John M. G. Watt, president; E. A. LeMay, vice-president; H. H. Hammer, secretary; J. C. Keller, treasurer. There is a membership of 75.

PERSONAL.

Mr. H. H. Rousseau, and Mrs. Rousseau, returned from a vacation in Costa Rica on February 15.

Dr. J. P. Perry, Chief Quarantine Officer, and Health Officer of the city of Panama, returned from his leave of absence in the States, on the *Panama*, arriving at Colon on February 3.

Athletic Meet in Colon.

An athletic meet will be held at the baseball park in Colon on Washington's Birthday, under the auspices of the Washington Athletic Club. The scheduled events are: 100-yard dash, shot put, three-legged race, one mile run, 220-yard dash, high jump, pole vault, sack race, 440-yard dash, race for boys under 16 years, running broad jump, relay race, and race for boys under 12 years. Entries close on Thursday, February 17. The meet will be held in the forenoon, beginning at 10 o'clock. Entries close on Saturday, February 19.

Improved Order of Red Men.

The Improved Order of Red Men of the Canal Zone will observe Washington's Birthday at a picnic at Palm Beach, Colon, and a dance at the Lincoln House in Colon, from 7.30 to 10 o'clock in the evening. A special train will leave Panama for Colon at 8 a. m., and returning, will leave Colon at 10 p. m., making all stops. The foundation for the monument in memory of members of the organization who are buried on the Isthmus will be laid at 2 p. m., at Mount Hope cemetery.

Steam Shovel and Dredge Men.

Local No. 19, International Brotherhood of Steam Shovel and Dredge Men will hold their regular monthly meeting on Sunday, February 20, at 2.30 p. m., in the Commission lodge hall at Empire. All members are requested to attend.

One hundred and ten members of the National Editorial Association left New Orleans on February 13, on the *Cartago*, and are expected to arrive at Colon on February 18. After inspecting the Canal work, they will leave Colon, on their return, on February 23.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Gatun, C. Z., on Sunday, February 20, 1910, at 2 p. m. The program follows:

1	March—*Col. Estey*	Bagley
2	Selection—*Marcelle*	Luders
3	Waltz—*Moonlight on the Hudson*	Tobani
4	Overture—*Concert in F*	Kalliwoda
5	Mazurka—*La Czarine*	Ganne
6	Medley of Southern Songs	Lampe
	Introducing "Swanee River," "Listen to the Mocking Bird," "My Old Kentucky Home," "Arkansas Traveler," "Massa's in the Cold, Cold Ground," "Zip Coon," "Old Black Joe," and "Dixie."	
7	Morceau Elegante—*Golden Blonde*	Eilenberg
8	*a* Two Step—*Hoop-e-Kack*	Allen
	b Barn Dance—*Stack of Fun*	Rolfe
9	Selection—*Faust*	Gounod
10	March—*Distant Greeting*	Doring

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Bas Obispo on Sunday, February 27, at 6 p. m.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

The present standing in the duck pin tournament is as follows:

	Won.	Lost.		Won.	Lost.
Palmer	3	1	Fish	3	1
Frederick	5	2	Mason	0	0
Huson	4	5	G. A. Brown	0	0
Herson	4	1	Korsan	2	2
Case	1	1	Lamster	1	1
Stearns	0	2	Hall	0	1
McRaven	0	0	Tupper	0	0
Ragan	1	3	Roberts	3	1
Hostetter	2	0	Fitzgerald	1	1
Teague	1	4			

The billiard tournament has been delayed owing to the illness of Mr. Dubois. The standing in the pool tournament is as follows:

	Won.	Lost.		Won.	Lost.
Flynn	13	0	Stearns	4	6
Vogel	10	1	Goodman	5	8
Beaman	11	3	Rinderle	3	7
McRaven	10	4	French	2	8
Reeves	7	4	Palmer	1	8
Hunter	9	5	Diehl	2	12
Holstead	4	5	McCormack	0	7
Johnson	4	6			

The educational classes begin February 14. There is still room for any one desiring to take educational work.

Persons interested in the instruction in wrestling should see Mr. Kramer and make arrangements.

The Edith Harris-Scott Company will give a return engagement at the clubhouse on Tuesday evening, February 15.

GORGONA.

The Edith Harris-Scott Concert Company will play a return engagement in the clubhouse on Thursday evening, February 17. The program rendered will be entirely different from that of the first concert.

The Gorgona indoor baseball team was defeated by the Culebra team on the night of February 11, by a score of 18 to 11.

CRISTOBAL.

Monday night, February 7, the "Head-Liners" won from the "All-Stars" in basketball, score 23 to 1, and Friday night, February 11, the "Swastika Five" won from the "All-Stars," score 27 to 6.

Friday night, February 11, the Cristobal ten pin team defeated the Gatun team on the home alleys, taking two of the three games rolled. The scores and line-up follow:

Gatun	1st.	2d.	3d.	Cristobal	1st.	2d.	3d.
Rabbit	184	146	156	Barrett	184	148	159
Barte	192	200	164	Louch	148	157	179
Hertz	131	126	134	Collins	156	121	153
DeCora	131	162	137	Thomas	145	157	167
Durand	144	159	150	Bullard	182	173	206
Total	782	793	741	Total	815	756	864

The Edith Harris-Scott Concert Company rendered a fine program before a large and appreciative audience on Wednesday evening, February 9. They will give another concert, with an entirely new program, on Monday evening, February 21.

GENERAL NOTES.

Mr. Charles R. Drum, secretary of the international committee of the Y. M. C. A., arrived on the Isthmus, on Wednesday, February 16. Mr. Drum will spend about a month on the Zone studying the work at the Commission clubhouses. While here he will give several addresses, and will be at the clubhouse towns on the following dates: Cristobal, February 16 to 22; Gorgona, February 23 to 28; Empire, March 1 to 6; Culebra, March 7 to 13; Gatun, March 13 to 18. The subjects of Mr. Drum's lectures will be, "An Honest Man," and "Excused."

SCHEDULE OF GAMES OF ATLANTIC BASEBALL LEAGUE, SEASON OF 1910

	Panama Railroad.	Com.-Subsistence.	Civil Administration.	Colon.
Panama railroad		Jan. 9; Feb. 6-22; Mar. 13; Apr. 24; May 8.	Jan. 16; Feb. 20; Mar. 6-25; Apr. 10; May 1.	Jan. 30; Feb. 27; Apr. 3. May 29-30; June 12.
Commissary-Subsistence	Jan. 9; Feb. 6-22; Mar. 13; Apr. 24; May 8.		Jan. 23; Feb. 13; Mar. 27; Apr. 3; May 22-30.	Jan. 16; Feb. 20; Mar. 6-25; Apr. 17; May 15.
Civil Administration	Jan. 16; Feb. 20; Mar. 6-25; Apr. 10; May 1.	Jan. 23; Feb. 13; Mar. 27; Apr. 3; May 22-30.		Jan. 9; Feb. 6; Mar. 20; Apr. 24; May 8; June 5.
Colon	Jan. 30; Feb. 27; Apr. 3; May 29-30; June 12.	Jan. 16; Feb. 20; Mar. 6-25; Apr. 17; May 15.	Jan. 9; Feh. 6; Mar. 20; Apr. 24; May 8; June 5.	

ISTHMIAN LEAGUE.

RESULTS OF GAMES, FEBRUARY 13.

Gorgona, 14; Marines, 6.
Empire, 12; Ancon, 2.

STANDING OF CLUBS.

	P.	W.	L.	Pc.		P.	W.	L.	Pc.
Gorgona	12	9	3	.750	Ancon	10	5	5	.500
Empire	11	7	4	.636	Marines	13	2	11	.154

SCHEDULE FOR FEBRUARY 20.

Marines at Empire.
Ancon at Gorgona.

SCHEDULE FOR FEBRUARY 22.

Marines at Ancon.
Gorgona at Empire.

Ancon.	R.	H.	PO.	A.	E.
Pearman, 3b.	1	1	0	3	0
Nygren, 1b.	1	1	8	0	2
Keller, lf, ss.	0	1	2	0	1
Smith, 2b.	0	1	0	1	1
Hunter, cf.	0	1	5	0	0
Yingling, c	0	0	5	1	0
Tinsley, ss, p.	0	1	2	2	0
Frampton, rf.	0	1	3	0	1
Lawler, p.	0	0	0	2	1
Poltrino, lf.	0	0	0	0	0
Totals	2	7	25	9	6

Empire.	R.	H.	PO.	A.	E
Bryan, 3b.	2	1	1	2	0
Dixon, ss.	2	2	3	0	1
S. Fluh'ty, rf.	2	2	3	1	0
Bell, 1b.	1	1	6	0	0
Christopher, p.	1	2	2	4	0
Moore, c.	1	1	6	1	0
E. Fluh'ty, lf.	1	0	1	0	0
Markley, 2b.	1	0	3	0	1
Murphy, cf.	1	0	2	0	0
Totals	12	9	27	8	2

Ancon . . . . . . 0 0 0 0 2 0 0 0 0—2
Empire . . . . . . 0 0 0 0 3 0 0 9 0—12

Runs earned—Empire, 5. Two base hits—Pearman, Dixon, S. Fluharty, Bell. Sacrifice hit—Tinsley. Sacrifice fly—E. Fluharty. Stolen bases—Bryan, Bell (2); Christopher, E. Fluharty, Markley (3), Murphy (3). Bases on balls—Off Lawler, 5; off Tinsley, 1; off Christopher, 1. Struck out—By Lawler, 4; by Tinsley, 1; by Christopher, 4. Left on bases—Ancon, 7; Empire, 10. Umpire—Irwin. Time of game—2.10. Scorer—J. K. Munroe.

Gorgona.	R.	H.	PO.	A.	E.
Dougherty, 2b.	1	1	1	2	1
Magee, lf.	2	0	3	0	0
Barney, rf	4	1	1	0	0
Wright, 1b.	0	0	10	0	0
Herring, c.	2	2	7	1	0
Cole, ss.	1	2	0	1	0
Clements, cf.	2	1	3	0	0
Emery, 3b	1	1	2	2	1
Case, p	1	0	0	4	1
Totals	14	8	27	10	3

Marines.	R.	H.	PO.	A.	E
Hurrle, lf.	0	0	0	0	0
Scarff, ss.	0	1	1	2	2
Maguire, 1b.	1	2	12	0	1
Lubomski, rf.	2	1	0	0	0
Volman, 3b.	1	0	1	1	1
Snyder, cf.	0	1	2	1	0
Conway, c.	0	0	4	0	2
Todd, 2b.	1	0	2	1	2
Munsen, p.	0	0	1	2	0
*Lyman	0	0	0	0	0
Yetton, p.	1	2	0	1	1
Totals	6	7	23	8	9

*Batted for Munsen in fourth.

Gorgona . . . . . . 3 0 2 2 0 5 2 0 x—14
Marines . . . . . . 0 1 0 2 1 0 0 0 2—6

Runs earned—Gorgona, 2; Marines, 1. Home runs—Herring, Maguire, Barney. Sacrifice hits—Barney, Emery, Case. Stolen bases—Snyder, Yetton (2), Dougherty, Magee (2), Herring (2), Cole (3). Bases on balls—Off Case, 3; off Munsen, 2; off Yetton, 4. Struck out—By Case, 6; by Munsen, 2; by Yetton, 3. Passed balls—Herring, 2; Conway, 2. Left on bases—Gorgona, 1; Marines, 5. Double plays—Snyder to Maguire; Maguire, unassisted. Wild pitches—Case, 1, Munsen, 1, Yetton 1. Umpire—Cooling. Time of game—1.50. Scorer—D. G. Hayes.

ATLANTIC LEAGUE.

RESULT OF GAME, FEBRUARY 13.

Civil Administration, 6; Commissary-Subsistence, 5.

STANDING OF CLUBS.

	P.	W.	L.	Pc.		P.	W.	L.	Pc.
Com-Sub.	5	4	1	.800	P. R. R.	3	1	2	.333
Civ. Adm.	5	2	3	.400	Colon	3	1	2	.333

SCHEDULE FOR FEBRUARY 20.

Commissary-Subsistence vs. Colon.
Panama Railroad vs. Civil Administration.

SCHEDULE FOR FEBRUARY 22.

Commissary-Subsistence vs. Panama Railroad.

C.-S.	R.	H.	PO.	A.	E.
Smith, ss.	2	2	5	3	0
Lindberg, cf.	1	1	1	0	0
McCormick, lf.	0	0	0	0	0
Muggleton, 2b	0	1	0	0	0
Reese, 1b, p.	1	1	1	3	0
Wemeyer, rf.	0	2	0	0	0
Gilmartin, 3b.	0	0	3	5	2
Beard, c.	1	1	6	1	0
Dawson, p.	0	1	0	0	0
McCusty, 1b	0	0	8	0	0
Totals	5	9	24	12	2

Civil Admin.	R.	H.	PO.	A.	E
Edwards, 1b.	1	3	8	0	0
Farrar, cf.	2	2	1	0	0
Reiss, 2b.	0	0	0	2	1
Fleichman, ss	0	0	4	1	0
Morrel, lf	1	1	4	2	0
Bath, 3b.	1	2	3	0	1
Daly, rf.	1	0	0	0	0
Roos, c.	0	0	6	2	0
Russell, p.	0	0	1	4	2
Totals	6	8	27	11	4

Commissary-Subsistence. 1 2 0 0 2 0 0 0 0—5
Civil Administration . . . . 5 1 0 0 0 0 0 0 x—6

Runs earned—C. A., 1. Two base hits—Smith, Wemeyer, Beard, Edwards, Farrar, Bath. First base on errors—C.-S., 4; C. A., 1. Passed balls—Beard, 2; Roos, 1. Stolen bases—Edwards, Farrar, Daly, Smith. Bases on balls Off Dawson, 2; off Reese, 1. Struck out—By Reese, 5; by Russell, 5. Hit by pitcher—Farrar, Morrel, Roos, Russell. Left on bases—C.-S., 4; C. A., 9. Double play—Morrel to Fleichman. Umpire—Rohr. Time of game—1,42. Scorer—Rennard.

OFFICIAL CIRCULARS.

Washington's Birthday.

CULEBRA, C. Z., February 9, 1910.

CIRCULAR NO. 306:

Washington's Birthday, Tuesday, February 22, 1910, will be observed as a holiday in the Canal Zone, and, as far as practicable, all public business will be suspended on that day.

GEO. W. GOETHALS,
Chairman.

Deductions for Lost or Damaged Property.

CULEBRA, C. Z., February 7, 1910.

ALL ACCOUNTABLE OFFICERS:

Whenever deductions are made against employes for lost or damaged property or material, copy of authorization for same will be forwarded to the Surveying Officer, Culebra, C. Z., for his information.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Method of Taking Up Complaints on Part of Employes.

CULEBRA, C. Z., February 9, 1910.

CIRCULAR NO. 307:

It is directed that all employes acting in a supervisory capacity hear and consider complaints and grievances from men under them, and take such action in each instance as lies within their jurisdiction and accords with existing regulations. In any case of doubt as to what action is proper, or where another department or division is concerned, the matter should be referred to higher authority for instructions or for decision.

Under no circumstances must personal feeling be allowed to influence any action.

Employes will always have the right of appeal to this office, but complaints and grievances should first be taken up with the officials having direct authority, or with the head of the division or department, before such appeal.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission,
President, Panama Railroad Company.

Rates of Pay.

CULEBRA, C. Z., February 10, 1910.

CIRCULAR NO. 299-A:

The last sentence in the first paragraph of circular No. 299 is amended to read:

This provision applies in particular to longevity rates authorized prior to July 1, 1909, *but does not revoke the rule published in circular No. 258-A.*

The following additional designations and rates of pay are authorized:

OFFICERS AND EMPLOYES.

Designation.	*Unit.*	*Rate of Pay.*
Nurse	Mo.	$105.00
This rate may be paid to male nurses, who are not allowed subsistence or laundry, after six months' service.		
Pathologist	Mo.	250.00
Postmaster	Mo.	75.00
	Mo.	83.33
SKILLED AND UNSKILLED LABOR.		
Operator (Electric Crane)	Mo.	100.00
The rates of $150, $162.50 and $175 may	Mo.	150.00
be paid only to operators of cantilever	Mo.	162.50
cranes laying concrete.	Mo.	175.00
Operator (Electric Pump)	Mo.	125.00
	Mo.	135.00
Operator (Telegraph)	Mo.	100.00
	Mo.	125.00

GEO. W. GOETHALS, *Chairman.*

Health Officer of the City of Panama.

ANCON, C. Z., February 14, 1910.

SPECIAL ORDER:

In compliance with instructions from the Chairman and Chief Engineer and effective this date, Dr. J. C. Perry, Chief Quarantine Officer, is hereby appointed Health Officer of the city of Panama and will assume the duties of the position in addition to his duties as Chief Quarantine Officer.

W. C. GORGAS, *Chief Sanitary Officer.*

Charge for Horse and Rig.

CULEBRA, C. Z., February 8, 1910.

DISTRICT QUARTERMASTERS:

The following memorandum from the Chairman is quoted for your information and guidance:

The recommendation contained in your memorandum of the 4th instant that the rate to employes for stabling an animal and caring for a rig be made $15 per month, this to include harnessing and unharnessing, but not delivery of the rig, and that no rigs be kept unless the owner is willing to pay the $15 rate, is approved.

The $9 rate for an animal alone will remain in effect.

C. A. DEVOL, *Chief Quartermaster.*

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning February 12:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	24
Chops	per lb	26
Cutlets	per lb	25
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	20
Beef—Suet	per lb	2
Soup	per lb	5
Stew	per lb	9
Corned	per lb.,	12, 14, 16
Chuck roast	per lb	13
Pot roast	per lb	15
Rib-roast, second cut (not under 3½ pounds)	per lb	*18
Rib-roast, first cut (not under 3 pounds)	per lb	20
Sirloin roast	per lb	21
Rump roast	per lb	21
Porterhouse roast	per lb	21
Steak, Chuck	per lb	14
Round	per lb	15
Rib	per lb	20
Sirloin	per lb	21
Porterhouse	per lb	21
Rump	per lb	21
Tenderloin	per lb	24

MISCELLANEOUS.

Livers—Beef	per lb	8
Calf	each	60
Half	each	30
Sausage—Pork	per lb	14
Bologna	per lb	14
Frankfurter	per lb	14
Leberwurst	per lb	14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	25
Oysters, in 1-quart kegs	keg	55
Oysters, in ½-gallon kegs	keg	90
Eggs, fresh	dozen	*36

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each	70, 82, 93, 1.04, 1.15
Ducks, large	each	1.50
medium	each	1.30
Broilers	each	75
Turkeys	per lb	28
Squabs	each	35
Capons	each	2.50
Geese	each	2.50
Rabbits	each	50
Pheasants	each	85
Partridges	each	50
Grouse	each	85

CURED AND PICKLED MEATS.

Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Sugar cured	per lb	19
Sugar-cured, sliced	per lb	24
Half, for boiling	per lb	20
Boiled	per lb	26
Hocks	per lb	‡18
Bacon—Breakfast, whole piece	per lb	24
Breakfast, sliced	per lb	25
Beef, salt, family	per lb	9
Pork, salt, family	per lb	15
Ox tongues	each	80
Pigs' feet	per lb	8
tongues	per lb	16
Mutton, mess	per lb	7

DAIRY PRODUCTS.

Butter—Creamery special	per lb	*40
Cheese—Roquefort	per lb	38
Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	26
Edam	each	1.00
Neufchatel	each	6
Gouda	per lb	34
Milk, Briarcliff	bottle	**25
Butter	bottle	**15

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	8
Lettuce	per hd	8, 11, 14
Cucumbers	per lb	18
Potatoes, white,	per lb	3
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	3
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	*3
Cabbage	per lb	3
Squash	per lb	5
Lemons	dozen	24
Cranberries	per lb	10
Apples,	per lb	5
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4
Pineapples	each	18

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal, Colon and Balboa, during the week ending February 12, 1910, with supplies for the Isthmian Canal Commission:

Pennsylvania, February 7, from San Francisco (At Balboa,) with 13 tons dredging machinery for Pacific Division.

Allianca, February 9, from New York, with 16 Underwood typewriters, 38 tons steel angles and bars, 45 tons bolts and nuts, 1,500 scrubbing brushes, 15,000 sheets corrugated iron roofing, 6 tons sheet zinc, and 108 tons wrought steel pipe for stock; 2 semi-marine boilers for Atlantic Division; 70,000 commissary books for Examiner of Accounts; and a miscellaneous cargo aggregating 4,981 packages, weighing 639 tons.

Ancon, February 10, from New York, with 28,600 barrels cement and 87 tons structural material for Atlantic Division; 52,000 bags cement for Pacific Division; 70 tons structural steel, etc., for the locks; 40 barrels creosote oil for stock.

Atenas, February 10, from New Orleans, with 35,000 feet yellow pine lumber, 834 switch ties, and 6 tons wire rope for stock; 20 tons steam shovel castings for Central Division; 3 tons car castings for Gorgona shops; 63,000 feet yellow pine lumber, and 9,000 feet white oak lumber for Pacific Division.

Queenswood, February 12, from Mobile and Gulfport, with 8 tons C. I. washers, 7,854 cross-ties, and 40,000 feet yellow pine lumber for stock; 2,000 feet yellow pine lumber, and 278 narrow gage cross-ties for Atlantic Division; 75,000 feet yellow pine lumber for Pacific Division; 96,000 feet white oak lumber for car and steam shovel repairs.

Proposals for Excavation in Canal Prism.

OFFICE OF CHIEF QUARTERMASTER,
CULEBRA, C. Z., February 1, 1910.

Sealed proposals for excavation of a section in the Canal prism, near Tabernilla, containing about 36,138 cubic yards, and a section near Bohio, containing about 166,272 cubic yards, will be received here until 2 p. m., March 1, 1910, and then opened. Full information will be supplied by the Division Engineer, Empire. Envelopes containing proposals must be indorsed "Proposals for excavation in Canal prism," and addressed C. A. DEVOL, *Chief Quartermaster.*

Sale of Unclaimed Shipments.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT.
COLON, R. P., February 5, 1910.

In order to recover freight and storage charges, the Panama railroad will dispose of the accumulation of over and unclaimed shipments now in its possession, by public auction, Tuesday, March 8, 1910, at 9 a. m., sale to be held on Dock 11, Cristobal, C. Z.

The items to be sold consist of a miscellaneous assortment of wines, liquors, household goods, building material, stationery, groceries, dry goods, machinery and merchandise in general, all of which has been held six months and over in an effort to locate owner.

J. A. SMITH,
General Superintendent.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending February 23, 1910 (75th meridian time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	A. M.	P. M.	P. M.
February 17.	....	3.13	9.13	3.36	9.42
February 18.	....	4.16	10.20	4.43	10.51
February 19.	....	5.26	11.41	6.00	....
			P. M.		
February 20.	12.10	6.40	1.06	7.16	....
February 21.	1.27	7.47	2.16	8.22	....
February 22.	2.32	8.45	3.10	9.16	....
February 23.	3.25	9.35	3.57	10.03	....

LOST.—Between the railroad station in Colon and Cristobal, Canal Medal No. 755, 1905-1907. A reward of five dollars will be paid for the return of the Medal to J. S. Singer, Subsistence Office, Cristobal, or for information as to where it may be recovered.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Colon	P. R. R.	Thursday	Feb. 10
Advance	P. R. R.	Wednesday	Feb. 16
Panama	P. R. R.	Wednesday	Feb. 23
Allianca	P. R. R.	Tuesday	Mar. 1
Colon	P. R. R.	Monday	Mar. 7
Advance	P. R. R.	Saturday	Mar. 12
Panama	P. R. R.	Friday	Mar. 18
Allianca	P. R. R.	Thursday	Mar. 24
Colon	P. R. R.	Thursday	Mar. 31

CRISTOBAL TO NEW YORK.

Ancon	P. R. R.	Monday	Feb. 21
Colon	P. R. R.	Tuesday	Feb. 22
Advance	P. R. R.	Monday	Feb. 28
Panama	P. R. R.	Monday	Mar. 7
Allianca	P. R. R.	Sunday	Mar. 13
Colon	P. R. R.	Saturday	Mar. 19
Advance	P. R. R.	Friday	Mar. 25
Panama	P. R. R.	Thursday	Mar. 31
Allianca	P. R. R.	Wednesday	Apr. 6
Colon	P. R. R.	Tuesday	Apr. 12

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

NEW YORK TO COLON.

Almirante	U.F.C.	Thursday	Feb. 10
Prinz Aug. Wilhelm	H.-A.	Saturday	Feb. 12
Santa Marta	U.F.C.	Thursday	Feb. 17
Nile	R.-M.	Saturday	Feb. 19
Metapan	U.F.C.	Thursday	Feb. 24
Prinz Joachim	H.-A.	Saturday	Feb. 26
Zacapa	U.F.C.	Thursday	Mar. 3
Tagus	R.-M.	Saturday	Mar. 5
Almirante	U.F.C.	Thursday	Mar. 10
Santa Marta	U.F.C.	Thursday	Mar. 17
Oruba	R.-M.	Saturday	Mar. 19
Metapan	U.F.C.	Thursday	Mar. 24
Zacapa	U.F.C.	Thursday	Mar. 31
Magdalena	R.-M.	Saturday	Apr. 2
Clyde	R.-M.	Saturday	Apr. 16
Atrato	R.-M.	Saturday	Apr. 30

COLON TO NEW YORK.

Almirante	U.F.C.	Sunday	Feb. 20
Tagus	R.-M.	Wednesday	Feb. 23
Santa Marta	U.F.C.	Sunday	Feb. 27
Prinz Aug. Wilhelm	H.-A.	Tuesday	Mar. 1
Metapan	U.F.C.	Sunday	Mar. 6
Zacapa	U.F.C.	Sunday	Mar. 13
Almirante	U.F.C.	Sunday	Mar. 20
Santa Marta	U.F.C.	Sunday	Mar. 27
Metapan	U.F.C.	Sunday	Apr. 3
Zacapa	U.F.C.	Sunday	Apr. 10

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

NEW ORLEANS TO COLON.

Turrialba	U.F.C.	Saturday	Feb. 12
Abangarez	U.F.C.	Saturday	Feb. 19
Atenas	U.F.C.	Saturday	Feb. 26

COLON TO NEW ORLEANS.

Turrialba	U.F.C.	Tuesday	Feb. 22
Abangarez	U.F.C.	Tuesday	Mar. 1
Atenas	U.F.C.	Tuesday	Mar. 8

COLON TO BARBADOS, CALLING AT TRINIDAD.

Nile	R.-M.	Tuesday	Mar. 1

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Alexandrian* for New Orleans, via Kingston, Ja., on or about March 7.

All Royal Mail steamers mentioned above leave early in the morning from Colon via Kingston, Jamaica, for New York. All mail and passengers should be on board early on day of sailing.

Sailing of the Ancon.

The steamship *Ancon*, now in port, will sail from Pier No. 11, Cristobal, at 3 p. m., on Monday, February 21, 1910.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, FEBRUARY 23, 1910. No. 26.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Chairman's Monthly Report.

The report of the Chairman of the Isthmian Canal Commission for the month of January is published in full in other columns of this issue of THE CANAL RECORD. It gives a detailed account of the progress of Canal work in all departments and divisions.

Commissary Prices.

The Commissary price list published in THE CANAL RECORD of February 2 showed a reduction in the price of 32 out of 73 kinds, or grades, of meats, poultry, and game listed.

In the United States, at present, the average price of live cattle is higher than at any time since 1882, and the average price of hogs is higher than at any time since the Civil War. The reduction in the price of meat in the face of the high prices in the States is possible, because of economies that have been effected in the running of the commissary system. Each of the thirteen stores has been divided into departments so far as can be done economically, and each department has been placed in charge of a responsible employe, who gives bond for the goods under his control. In this way the loss from goods lost or stolen has been reduced practically to nothing. The method of purchasing and distributing cold storage goods, especially fruits, has been changed so that losses from this source have been greatly diminished.

The reduction in the price of meat has been gradual, but consistent, during the past year. On January 17, 1909, porterhouse steak cost 29 cents a pound at the commissaries; on February 1, the price was reduced to 27 cents; on May 30, it was selling at 25 cents a pound, but as soon as the new meat contract went into effect, the price was reduced to 22 cents, and it remained at 22 cents until February 1, 1910, when it was reduced to 21 cents.

The contract under which the Subsistence Department buys fresh meats is advantageous, although the market prices from week to week affect the price paid. The contract extends for a year, but the price of beef, veal, lamb and mutton is fixed at a certain percentage above, or below, a base price. The base price is the average of the prices paid for the ten lots of cattle that bring the highest prices in the Chicago market on the Monday of the week in which the purchases are made. None of the ten lots may consist of less than ten animals, and the number of animals in the ten lots may not be less than 125.

Fresh pork is bought in the open market, and the price of cuts has remained at 20 cents a pound since the fall of 1907.

Eggs also are purchased in the open market, the prices fixed by the New York produce exchange determining the cost to the Canal employe. They are brought to the Isthmus in cold storage, and kept in cold storage until delivered to the consumer; and there is little loss on account of breakage or quality. The value of the eggs consumed by the Americans on the Canal work is almost twice as great in one week as the value of the beef and mutton. Very few eggs are sold to the "silver" employes or laborers. The price per dozen has been as follows on various dates since the summer of 1907: August, 1907, 29 cents; December 15, 1907, 40 cents; July 1, 1908, 28 cents; December 29, 1908, 50 cents; August 30, 1909, 32 cents; December, 30, 1909, 40 cents; February 2, 1910, 42 cents; February 14, 1910, 36 cents.

Increase in Cement Deliveries.

On account of the increase in the quantity of concrete laid in the locks at Gatun, and the prospective increase in the locks at Pedro Miguel, as soon as one unit of the permanent handling plant is placed in operation, the cement contractor in the United States has been notified to increase the amount of cement delivered in barrels to 2,800 barrels a day. The shipments in bags, four to the barrel, remain at 1,000 barrels a day, making the total amount of cement to be delivered equal to 3,800 barrels a day.

Marking Canal Equipment.

A uniform method has been adopted for marking cars, locomotives, pile drivers, track shifters, unloaders and spreaders in the service of the Isthmian Canal Commission. Standard equipment in the Panama railroad service, and steam shovels, will not be marked in the new way. The mark will be a white diamond 12 by 22 inches, in which black letters 7 inches high will be stenciled, the work to which the piece of equipment is assigned being indicated by the initial letter "A" for Atlantic Division, "C" for Central Division, "P" for Pacific Division, "R" for relocation of Panama railroad. I. C. C. equipment in the Panama railroad service will be marked with a yellow ball. Cars carrying sand from Balboa to Gatun will be marked "Sand" in white paint, with the Atlantic Division diamond on the body sills. Locomotives will be stenciled on the ends of pilot beams and on the ends of tank beams; pile drivers, track shifters, unloaders, and spreaders, on the side sills of the cars on which they are mounted; cranes, on side sills; steel and wooden flat cars, on side sills, and steel dump cars, on body sills only. All stenciling will be done on both sides of the equipment, and the diamond will precede the number of the piece of equipment.

Colon Breakwater.

A general scheme for constructing the west breakwater at the north entrance to the Canal has been approved and the preparatory work will be begun this month. The purpose of the breakwater is to protect shipping in the harbor of Colon, and vessels making the north entrance to the Canal, from the violent northers that are likely to prevail from October to January, and to reduce to a minimum the amount of silt that may be washed into the dredged channel. Preliminary plans provide for two jetties of rock, one extending from Toro Point, on the west shore of the bay and ending in 48 feet of water, and the other extending from the east shore, near Manzanillo Point, to the 44-foot contour. An opening will be left between the outer ends of the jetties through which vessels may enter the Canal and harbor.

In the construction of the west jetty, approximately 3,290,000 cubic yards of rock will be required. A deposit of limestone suitable for the core of the jetty, which may also prove suitable for the armor, has been developed on Toro Point. It is proposed to build a double trestle from the shore line from which rock will be dumped, the construction of the trestles advancing with the progress of the fill. Thus as the work advances the effect of wave action on the Toro Point rock can be watched and the question as to whether harder rock will be required for the armor of the breakwater may be determined.

A dredge will be set at work taking about 50,000 cubic yards of coral from a small bay inside the line of the breakwater, known as Shelter Cove, thus making a harbor that can be entered in any ordinary weather, and which will be more protected as the breakwater advances. A wharf will be built along the north side of this harbor, with trestle connection with the mainland, at which plant and supplies may be unloaded.

Quarters for laborers, and other employes, will be built in proximity to the work, and the camp thus established will be connected with the regular telephone system

NOTES OF PROGRESS.

(*Continued.*)

by a line six miles long. A supply of water may be obtained from the Arenal River, a small stream about a mile and a quarter from Toro Point, and at a sufficient elevation, so that the quarters may be supplied by gravity. Preparatory work will also include the clearing of land, stripping of the quarry, and the assembling of equipment. A schedule of the plant required—buildings, steam shovels, locomotives, cars, barges, and other equipment—is under consideration. Fifty steel, 19-yard, air dump cars for this work are included in the order for three hundred cars recently placed in the States, and much of the other equipment required is already on the Isthmus.

The placing of rock in the jetty will probably not begin before July 1, and the construction will proceed at a rate to insure the completion of the entire breakwater in about three years.

Gatun Locks.

Arrangements are being made to bring rock in large pieces from Porto Bello to be placed in the massive concrete at Gatun Locks. It will be handled at the quarry by locomotive crane, and at Gatun, it will be placed in skips and delivered to the forms in the same manner as the concrete. It is proposed to embed in the massive concrete about ten per cent of its volume of large rock, thus making a saving in material.

Excavation in the upper lock is finished, and the construction of the west side wall is about to begin. The laying of concrete in the floor and the monoliths of the east side wall continues, and the six steel forms for the construction of the center wall, which will divide the twin locks, are nearing completion. The placing of concrete for the sill of the mitering gates at the upstream end of the upper locks is in progress, and it requires greater care than any yet met with, because provision must be made for placing the steel and iron that will form part of the sill.

In the forebay, work is nearing completion on the sill of the emergency dam, the floor of the forebay is practically completed, and the construction of the center guide wall has been begun. Excavation for the west approach wall is finished, and the laying of concrete in the wall has been begun.

The amount of concrete laid by days, during the week ending February 19, follows:

	Cubic Yards.
February 14	2,613
February 15	1,771
February 16	2,434
February 17	2,616
February 18	2,594
February 19	2,764
Total	14,792
Previously reported	181,645
Grand Total	196,437

During the week 2,131 cubic yards of concrete were laid in the Spillway.

The Work at Pedro Miguel Locks.

The first of the two berm cranes, under construction in the north forebay at the Pedro Miguel Locks, will be ready for trial about the first of March. The two cube concrete mixers and accessories, which are built into and form a component part of the crane structure, are in place, and the electrical apparatus only lacks adjustment. Power will be supplied the various motors in the crane from the forebay substation. A considerable quantity of rock and sand has already been dumped from the storage trestles,—sand on the outside and rock within—and the mixing of concrete with the permanent plant can be commenced as soon as the berm crane is ready, and the lock trestle is completed.

Work on the other cranes is advancing. The erection of the second berm crane is under way, and in the west lock chamber, two cranes have been set up, one of which is completed and in use conveying miscellaneous material, while the other only lacks the electrical equipment. The wooden false work employed in the erection of these cranes is being transferred to the east chamber, where two similar chamber cranes will be constructed.

Concrete operations, aside from the south guide wall, now extend over various parts of the lock. A section of the side wall culvert forms, which are 18 feet in diameter, were in place at the close of work on Saturday, and the filling in of the concrete was begun this week. As soon as the forms have been enclosed, construction of the side wall monoliths can be entered upon. The four wooden forms to be used for the lily-shaped openings from the lateral into the side wall culverts have been finished, and two of the concrete openings have been fashioned. Concrete is also being placed in the center wall, and in the side wall floor in the east chamber. The work of trenching for the lateral culverts in this chamber continues.

Steam shovel excavation in the lock pit is nearly concluded, and all of the machines have been withdrawn, with the exception of the Thew shovel. Two of the steam shovels are in shop for repairs, and the third has been set at work excavating in the channel south of the lock, and the material removed therefrom is used in the construction of the west dam.

The record of concrete laying for the six eight-hour working days of the week ending February 19 follows:

	Cubic Yards.
February 14	569
February 15	274
February 16	402
February 17	596
February 18	569½
February 19	504
Total	2,914½
Previously reported	58,448
Grand Total	61,362½

A Steam Shovel Record.

On February 18, sixteen shovels, working in the Culebra construction district of the Central Division, excavated 24,329 cubic yards of rock and earth during the working day of eight hours, or an average of 1,521 cubic yards per shovel for the day. The 16 shovels were under steam 128 hours and were actually digging 89 hours and 5 minutes. The principal cause of delay was due to waiting for cars, which includes the time spent in switching empty trains under the shovels to take the place of those just loaded. The total time lost from this cause was 31 hours and 35 minutes. The material excavated was loaded into 1,211 Lidgerwood flats and 132 Western and Oliver dump cars, a total of 1,343 carloads.

Ancon Rock Crushers.

Six hundred and eight carloads of quarried rock were crushed at the Ancon Hill plant during the five days, February 14 to 18, inclusive. On the 18th, about 1,300 cubic yards of quarried rock were run through the machines in a period of five hours. The record by carloads for each of the above days follows:

	Carloads.
February 14	115
February 15	101
February 16	100
February 17	138
February 18	154
Total	608

LABOR FORCE AND QUARTERS IN JANUARY.

The report of the Chief Quartermaster for the month of January shows that the increase in force continued during that month. The total force actually at work for the Commission on January 26, was 29,750, an increase of 2,506 over the force at work December 29. The only laborers imported during the period were 230 from Trinidad, who were assigned to the Panama railroad relocation, and many of whom deserted without rendering any service. The increase of 2,506 in the Commission's force, therefore, seemingly proves that independent immigration and the surplus of labor already on the Isthmus, can be depended upon to a considerable extent to meet any demand for an increased number of laborers. The total force of the Commissary, the Panama railroad, and the Panama railroad relocation, not included in the above total, was 7,636, so that the total force at work January 26 for the Commission and Panama railroad, was 37,386, constituting the largest force employed up to that time.

The number of family quarters occupied by "gold" employes was 1,663, and the occupants numbered 5,084; bachelor quarters by "gold" employes, 1,982, and the occupants numbered 3,750, of whom 141 were women. The family quarters occupied by West Indians numbered 1,015, and the occupants, 3,310; bachelor quarters, 282, number of occupants, 5,398. The family quarters occupied by European laborers numbered 317, and the occupants, 915; bachelor quarters 124, and the number of occupants, 4,946.

The force actually at work on January 26, was as follows:

DEPARTMENT.	Monthly.	Artisans.					European Laborers.		West Indian Laborers.					Total Silver.	Total Gold.	Grand Total.
		44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 cents.			
Const'ct'n and Eng'r'ng.	3,832	21	40	370	886	2,354	3,419	1,184	127	922	3,173	4,015	318	20,661	3,384	24,045
Civil Administration	175	..	..	1	3	18	......	......	...	...	......	5	....	202	350	552
Sanitation	611	..	..	4	4	8	......	2	...	...	1	258	6	894	363	1,257
Quartermaster's	1,102	4	2	43	163	196	222	35	36	27	3	968	13	2,809	251	3,060
Subsistence	635	..	..	1	2	......	......	......	...	...	......	......	....	638	59	697
Disbursements	7	..	..	....	.....	......	......	......	...	...	......	......	....	7	29	36
Examinat'n of Accounts.	7	..	..	....	.....	......	......	......	...	...	......	......	....	7	96	103
Totals	6,369	25	42	419	1,058	2,576	3,641	1,221	163	949	3,177	5,241	337	25.218	4,532	29,750

Panama railroad force, 3,745; Panama railroad relocation force, 2,989; Panama railroad commissary force, 902. Total, 7,636.

EXECUTIVE ORDER.

Steamboat Inspectors May Administer Oaths.

By authority of the President of the United States, it is ordered:

That each member of the Board of Local Inspectors, appointed under the authority of Executive Order No. 1131 of the President, dated October 2, 1909, is hereby authorized to administer oaths necessary in conducting the business of the Board.

J. M. DICKINSON,
Secretary of War.

WAR DEPARTMENT,
Washington, D. C., *February 8, 1910.*

General Meeting of Red Cross.

A general meeting of the Canal Zone Chapter of the American National Red Cross will be held in the Commission lodge hall at Ancon on Sunday afternoon, February 27. Free transportation will be furnished to all members, who have paid their dues for 1910, and who wish to attend the meeting. Certificates of membership will be accepted in lieu of tickets, and in addition, local chairmen will be authorized to pass members of their organizations. The President and other officers urge a full attendance. The meeting will be held immediately after the arrival of the special train at Panama. The train schedule follows:

Leave.	*P. M.*	*Leave.*	*P. M.*
Colon	12.15	Panama	4.30
Mount Hope	12.20	Corozal	4.38
Mindi	12.25	Miraflores	4.45
Gatun	12.33	Pedro Miguel	4.48
Bohio	12.53	Paraiso	4.51
Frijoles	1.00	Culebra	5.00
Tabernilla	1.07	Empire	5.06
San Pablo	1.12	Las Cascadas	5 10
Mamei	1.20	Bas Obispo	5.18
Gorgona	1.25	Matachin	5.22
Matachin	1.30	Gorgona	5.27
Bas Obispo	1.34	Mamei	5.34
Las Cascadas	1.41	San Pablo	5.42
Empire	1.46	Tabernilla	5.49
Culebra	1.51	Frijoles	5.55
Paraiso	2.03	Bohio	6.03
Pedro Miguel	2.09	Gatun	6.25
Miraflores	2.14	Mindi	6.32
Corozal	2.21	Mount Hope	6.38
Arrive Panama	2.30	Arrive Colon	6.45

Fatal Accidents.

Robert Turner, a naturalized American, employed in the machine shops at Balboa, was killed shortly after 1 o'clock, Thursday afternoon, February 17, by the premature explosion of a blasting charge. He was engaged in blowing up some castings, and was tamping the charge when it exploded, a piece of iron striking him in the head, causing death soon after. Turner was born in Switzerland 38 years ago, and leaves a wife. His employment with the Pacific Division dated from November, 1909.

Ernest Odebrett, a steam shovel craneman, was struck by the dipper of a steam shovel, while at work at Gatun on the morning of February 15, and died at Colon Hospital on February 18. He was a native of Minnesota, was 30 years of age, and had been on the Isthmus two years. He is survived by his wife.

Counterfeit Gold Coins.

The Disbursing Officer has notified all paymasters, pay clerks, and money counters that counterfeit five-dollar gold coins are being passed on the Isthmus, one bearing the date 1903, another 1881. The color of the coins is about what is known as California gold, considerably lighter yellow than some of the other gold. The stamp work on both sides is good, and to a person glancing at a coin lying upon a desk, it would probably pass muster, although on closer examination, the coin would appear to be washed with gold. The weight is just one-half the actual weight of a good five-dollar gold piece. The milling is the poorest part of the coin, and is irregular and comparatively crude. The coins are such, however, as to very readily be passed upon people not familiar with United States coins, and extra precautions should be taken in examining all five-dollar gold pieces.

U. S. Civil Service Examinations.

Competitive examinations under the rules of the United States Civil Service Commission, for the positions named, will be held throughout the United States during the spring of 1910, as follows:

Agricultural inspector, Philippine Service.
Aid, Coast and Geodetic Survey.
Apprentice plate cleaner, transferrer, and engraver, Bureau Engraving and Printing.
Apprentice plate printer.
Assistant, Philippine Service.
Assistant examiner, Patent Office.
Bookkeeper, Departmental Service.
Bookkeeper, Philippine Service.
Civil engineer, Departmental Service.
Civil engineer and draftsman.
Civil engineer student.
Civil engineer and superintendent of construction.
Clerk, Isthmian Canal Service.
Computer, Coast and Geodetic Survey.
Computer, Nautical Almanac Office.
Computer, Naval Observatory.
Computer, Supervising Architect's Office.
Draftsman:
  Apprentice, Ordnance Department.
  Architectural, Supervising Architect's Office.
  Copyist, topographic.
  Engineer, Supervising Architect's Office.
  Heating and ventilating, Supervising Architect's Office.
  Junior architectural, Supervising Architect's Office.
  Junior engineer, Engineer Department at Large.
  Mechanical, Isthmian Canal Service.
  Topographic, Departmental Service.
  Topographic, Isthmian Canal Service.
Elevator conductor.
Engineer, Indian Service.
Farmer, Indian Service.
Farmer, with knowledge of irrigation.
Fish culturist.
Forest assistant, Forest Service.
Forest assistant, Philippine Service.
Junior engineer, Technologic Branch, Geological Survey.
Kindergarten teacher.
Local and assistant inspector of boilers.
Local and assistant inspector of hulls.
Matron, Indian Service.
Observer, Weather Bureau.
Pharmacist, P. H. and M. H. Service.
Physician.
Postal clerk, Isthmian Canal Service.
Press feeder, Government Printing Office.
Scientific assistant, Department of Agriculture.
Stenographer, Departmental Service.
Stenographer and typewriter, all services.
Superintendent of construction.
Teacher, Indian Service.
Teacher, Philippine Service.
Trained nurse.
Typewriter, Departmental Service.
Typewriter, Isthmian Canal Service.
Veterinarian, Philippine Service.
Veterinary inspector, Department of Agriculture.
Watchman, messenger, and skilled laborer.
Wireman.

The departmental clerk and railway mail clerk examinations will not be held during the spring of 1910, and inquiries concerning them should not be made until July 15, when the next Manual will be ready for distribution.

In accordance with an Act of Congress an applicant for examination for a position in the apportioned Departmental Service at Washington, D. C., will be required to be examined in the State or Territory in which he resides, and to show in his application that he has been actually domiciled in such State or Territory for at least one year previous to the examination.

Persons who may desire to take any of these examinations on the Isthmus may obtain further information from J. K. Baxter office of the Chairman, Culebra, C. Z.

New Gatun Clubhouse.

Plans are being completed for the opening, during the first week of March, of the new commission clubhouse at Gatun, which is to be operated by the Young Men's Christian Association. Lt.-Col. Wm. L. Sibert, Division Engineer of the Atlantic Division, will be chairman of the executive council. Mr. F. G. Smith, formerly acting secretary at Cristobal and Gorgona, has been appointed secretary. Mr. W. H. Warr of the Springfield Training School, and recently physical director at White Plains, New York, has been appointed assistant secretary and physical director.

A tentative program for the opening exercises has been arranged, as follows:

March 3—Official opening celebration.
March 6—Sunday service.
March 7—Opening of gymnasium; game of baseball.
March 8—Ladies night.
March 10—Basketball night.
March 11—Pool, billiard, and bowling tournaments.
March 12—Local talent entertainment.

Mr. J. W. Roland has been appointed chairman of a general committee on arrangements which has subcommittees on entertainment and transportation. Further information will be furnished at a later date regarding the possibility of securing a special train. Any necessary change in this program will appear in the next issue of THE CANAL RECORD.

Rock Crushing at Porto Bello.

The output of the crushers at Porto Bello on Thursday, February 10 was 3,505 cubic yards, 1,000 yards more than was reported for that day in THE CANAL RECORD of February 16. This is the largest amount of rock crushed at Porto Bello in a day of 16 hours. The record for the week ending February 19 follows:

	Cubic Yards.
February 14	2,610
February 15	2,575
February 16	2,885
February 17	2,430
February 18	2,280
February 19	3,165
Total	15,945

Rainfall, February 1 to 19, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Atlantic Division—	*Ins.*		*Ins.*
Cristobal	1.01	3	2.83
Brazos Brook	.97	8	2.47
Gatun	.81	3	2 47
Central Division—			
Bohio	3.51	7	6 67
Tabernilla	.93	8	2.15
San Pablo	.77	8	2.61
Gorgona	1.10	8	1.76
Gamboa	.80	8	1.64
Empire	.32	8	.73
Camacho	.60	8	1.24
Culebra	.42	7	.74
Pacific Division—			
Rio Grande	.36	8	.89
Pedro Miguel	.23	7	.50
Miraflores	1.08	17	1.92
Balboa	.19	7	.45
Ancon	.13	11	.40
Atlantic Coast—			
Porto Bello	......	....	......
Nombre de Dios	1 82	8	3.81
Upper Chagres—			
El Vigia	1.77	8	2.27
Alhajuela	1.35	8	2.44

CANAL WORK IN JANUARY.

Monthly Report of the Chairman to the Secretary of War.

CULEBRA, C. Z., February 16, 1910.

The Honorable the Secretary of War,
Washington, D. C.

Sir—I have the honor to submit the following report of operations on the Isthmus for the month of January, 1910:

The following table summarizes the principal items of construction work accomplished by the Atlantic, Central, and Pacific Divisions during the month:

Item.	Unit.	Atlantic.	Central.	Pacific.	Total.
Work excavation, dry	Cubic yards	125,011	1,499,495	58,899	1,683,405
Work excavation, wet	Cubic yards	510,055	....	516,945	1,027,000
Total work excavation	Cubic yards	635,066	1,499,495	575,844	2,710,405
Plant excavation, dry	Cubic yards	....	....	45,350	45,350
Plant excavation, wet	Cubic yards	74,183	....	1,991	76,174
Total plant excavation	Cubic yards	74,183	....	47,341	121,524
Total Canal excavation	Cubic yards	709,249	1,499,495	623,185	2,831,929
Material placed in dams	Cubic yards	415,248	....	28,151	443,399
Concrete placed	Cubic yards	56,722	....	16,273	72,995
Explosives used	Tons (Gross)	47.78	211.29	32.59	291.66
Rock drilling	Feet	55,334	362,301	66,779	484,414
Track removed	Miles	....	17.20	....	17.20
New track laid	Miles	3.54	22.60	2.38	28.52
Rock crushed	Cubic yards	59,122	624	19,488	79,234
Cement used	Barrels	55,122	103	17,270	72,495
New roads built	Miles	....	....	....	....
Water mains laid	Feet	4,925	7,697	6,199	18,821
Sewers laid	Feet	500	246	5,989	6,735
New drains and ditches dug	Feet	1,641	2,485	1,770	5,896
Average daily force		7,907	8,772	4,940	21,619
Rainfall, average	Inches	7.13	0.70	1.35	2.12

Atlantic Division.

GATUN LOCKS.

Excavation—Excavation during the month was carried on in all three chambers, but principally in the lower chamber. At the end of the month the excavation for the entire locks was 80 per cent completed, and the crane excavation in the upper lock for filling culverts was 80 per cent completed.

Receiving and Issuing Material—The receipts of concrete material during the month were satisfactory, and exceeded the consumption, except in the case of cement, on which item the consumption slightly exceeded the receipts. All parts of the receiving plant were operated satisfactorily.

Concrete Work—The concrete work for January showed an increase of nearly 26 per cent over the output for December. The place measurement exceeded the bucket measurement for the month by approximately 2 per cent. The concrete work in the upper lock was 21 per cent completed; for the entire locks the work was approximately 8 per cent completed. Three sets of tower forms were placed in commission during the month. As soon as all of these forms have been placed in commission, and the derricks proposed for them erected, it is believed that each cableway will complete a side-wall monolith in 6 to 8 days, and a center-wall monolith in 8 to 12 days.

Power Plant—The power plant was operated satisfactorily during the month, showing a further decrease in the cost per kilowatt hour. The boiler test gave satisfactory results, and the boilers were accepted.

Iron and Steel Work—The setting of castings in the sill of the emergency dam was continued, and was 80 per cent completed at the end of the month. The setting of anchorages for the caisson sill was 60 per cent completed.

GATUN DAM.

Construction during the month increased the total fill by 405,248 cubic yards, making the total amount in place at the close of the month 5,752,144 cubic yards.

Hydraulic Fill—The dredges increased the hydraulic fill by 178,254 cubic yards, which made the total hydraulic fill at the close of the month 2,274,731 cubic yards.

Enrockments—Material received from the Central Division, the Locks and the Spillway, amounting to 236,994 cubic yards, was placed on the north and south toes of the dam, making a total dry fill in place of 3,477,413 cubic yards. Bas Obispo rock was placed in storage at New Gatun to the amount of 6,035 cubic yards, making a total in place of 174,867 cubic yards, 25 per cent being allowed for swell. Bas Obispo rock to the amount of 1,089 cubic yards was used in general track work for ballast.

GATUN SPILLWAY.

At the beginning of January the effects of the flood prevented complete resumption of the work. Excavation, however, with two 45-ton shovels was carried on during the entire month, but was handicapped during the early part of the month by damaged tracks, wet pits, and bad conditions generally. The laying of concrete was resumed January 5 under similar unfavorable conditions.

Excavation—The material excavated amounted to 25,090 cubic yards, making the total at the close of the month 1,366,939 cubic yards.

Concrete—The amount of concrete laid during the month was 2,586 cubic yards, making the total at the close of the month 53,596 cubic yards.

HARBOR AND CHANNEL SECTION.

Dry Excavation Below Sea Level at Mindi—There was no dry excavation at Mindi during the month.

Dredging from the Ocean to Mindi—Four dredges removed from the prism 485,752 cubic yards of earth, and 24,303 cubic yards of rock. In addition, the dredge *Mindi* removed 4,030 cubic yards of earth, and 9,747 cubic yards of rock from the French canal. The dredge *Chagres* removed 11,886 cubic yards of earth, and 17,296 cubic yards of rock from the French canal, and 3,206 cubic yards of earth from the approach to the Gatun docks. On January 31st, 40 feet of water could be carried from 0 to mile 2 plus 1,800 feet; 30 feet to mile 3 plus 1,300 feet; 20 feet to mile 4 plus 800 feet, and 10 feet to mile 5 plus 800 feet, the end of the cut.

PORTO BELLO.

At this point two eight-hour shifts were continued during the month, except on January 22, when the plant worked 22 hours. The maximum 16 hour day's output was 3,291 cubic yards, and the total for the month, 59,122 cubic yards of crushed rock.

NOMBRE DE DIOS.

During the month 26 barge loads, containing 15,476 cubic yards of sand, were shipped to Cristobal.

MUNICIPAL ENGINEERING.

The usual work of maintenance of roads, waterworks and sewers, pumping stations, etc., was satisfactorily performed. The municipal engineering subdivision continued the construction of the Agua Clara reservoir, 13,000 cubic yards of earth being placed in the dam during the month, bringing the lowest point of the fill up to elevation plus 40.

Central Division.

During the month of January, the total amount of material excavated in the Central Division was 1,499,495 cubic yards, of which 366,919 cubic yards were classified as earth and 1,132,576 cubic yards as rock. Of this quantity, 1,461,389 cubic yards were removed by steam shovels, 4,687 cubic yards by bucket crane, 1,386 cubic yards by hand and scraper, and 32,033 cubic yards by contract; 1,492,711 cubic yards of the total was primary excavation for the Canal prism, and 6,784 cubic yards was excavation of silt deposited in the completed sections by floods.

The daily average number of steam shovels at work during the month was 46.68, and the total number of shovel days was 1,167, as compared with 43.15 shovels at work during the month of December, with 1,122 shovel days.

For comparison with the work done by steam shovels during the corresponding month of the previous year, the following table has been prepared:

Period.	Excavated by shovels.	Classification of material.		Av. No. of shovels at work.	W'kg days.	Av. yards per shovel day.
		Rock.	Earth.			
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds*			*Cu. Yds*
1909: Jan	1,532,016	1,027,132	504,884	51.80	25	1,183.0
1910: Jan	1,461,389	1,128,835	332,554	46.68	25	1,252 3

Rainfall at Empire: 1909, 2 28 ins.; 1910, .70 ins.

The above table shows the average output per shovel day to be nearly 5.9 per cent greater in January, 1910, than in the corresponding month of the previous year.

The total amount of material excavated in the Culebra section of the Central Division in January, 1910, was 1,323,693 cubic yards, being the highest record in that section for the month of January, the highest previous record having been in January, 1908, when 1,227,022 cubic yards were removed. The total excavation in the Canal prism for the entire Central Division in January, 1910, was also the largest recorded January excavation for the Canal prism.

The total amount of material to be excavated in order to complete the Canal in the Central Division when the United States assumed control was 89,794,493 cubic yards. Up to February 1, 1910, 50,740,082 cubic yards had been removed, leaving 39,054,411 cubic yards to be removed in order to complete all excavation in the Central Division.

From these figures it will be seen that 56½ per cent of all excavation in the Central Division had been completed at the close of the month of January, and 43½ per cent remained unfinished. Considering the two sections which compose the Central Division, the excavation completed and that to be completed at the close of January operations was as follows:

CULEBRA SECTION.

	Cubic Yards.
Completed	42,855,704
To be completed	35,186,591

CHAGRES SECTION.

	Cubic Yards.
Completed	7,884,378
To be completed	3,867,820

From the above figures it will be seen that the Culebra section, locally known as the Culebra Cut, was 54.9 per cent completed, with 45.1 per cent to be completed; the Chagres section was 67.1 per cent completed, with 32.9 per cent to be completed.

During the month the following quantities of material were hauled from the Canal prism and dumped in the embankment for the new roadbed for the relocation of the Panama railroad: 243,862 cubic yards between Caimito and Gamboa; 21,237 cubic yards in the vicinity of Miraflores. The total at the close of the month used for this purpose was 2,839,039 cubic yards During the month 40,051 cubic yards of earth and 45,889 cubic yards of rock from the Culebra Cut were transported to Gatun for use in the construction of the dam, making a total at the close of the month for this purpose of 230,223 cubic yards of earth, and 673,767 cubic yards of rock.

The output of the Empire portable rock crusher for the month was 624 cubic yards. The rock crusher at Bas Obispo was not operated during the month, gravel secured from bars, which formed during the floods of the Chagres River at Santa Cruz and Matachin, being used for track ballast, instead of crushed rock; 11,471 cubic yards were recovered for this purpose.

The daily average number of laborers at work on the whole division during the month was 7,810, the average number of gold men being 962.

Pacific Division.

DISTRICT NO. 1—LOCKS AND DAMS.

The total excavation during the month amounted to 58,899 cubic yards. No material was added to the prism of the west dam at Pedro Miguel, leaving the total at the close of the month 170,166 cubic yards. At Miraflores, 28,151 cubic yards of dry filling were added to the toe; no hydraulic filling was added to the core of the west dam, the totals at the close of the month being 500,242 cubic yards, and 138,587 cubic yards, respectively. During the month 13,023 cubic yards of dry filling were placed in backfill, making the total at the close of the month 67,802 cubic yards.

The erection of the handling plant at Pedro Miguel progressed more satisfactorily than during any previous month. One chamber crane was completed, and the second one was about 50 per cent completed. One berm crane was about 85 per cent completed. At the Miraflores power house the third generator was about completed.

The track to the hydraulic pumping station at Miraflores was completed, and a steam shovel moved to the site for excavating the foundation of plant.

DISTRICT NO. 2—DREDGING.

The following table gives the output of the five dredges, which were in operation during the month:

Dredge.	Type.	Cubic Yards.		Remarks.
		Work.	Plant	
Culebra..	Suction	271,767	......	Scow measurement
Marmot..	Ladder	128,096	......	Place measurement
Badger ..	Ladder	37,101	1,991	Place measurement
Mole.....	Ladder	52,590	......	Place measurement
Cardenas	Dipper	27,391	......	Place measurement
Total ..	....	516,945	1,991	

DISTRICT NO. 3—MUNICIPAL WORK.

The maintenance and operation of the various municipal plants was continued satisfactorily. At the Rio Grande crusher 19,488 cubic yards of crushed rock were produced.

During the month the work on the new improvements in Guachapali district, city of Panama, were continued. Excavation for, and the laying of the sewer and water systems, was about completed on East Twentieth, Twenty-first, Twenty-second, Twenty-third, Lyons, and Obarrio streets. Work was also started on two of the streets in the Cocoa Grove district during the month.

Relocation of Panama Railroad.

During the month, 217,304 cubic yards of material were excavated, making the total excavation at the close of the month, 2,714,421 cubic yards, and 316,575 cubic yards of material were placed in embankment, making a total at the close of the month of 7,025,393 cubic yards.

During the month, 4,565 linear feet of trestle were driven, and the work of constructing bridges and culverts was continued. A total of 8,269 linear feet of permanent track was laid, making the total at the close of the month 152,189 linear feet.

Quartermaster's Department.

The increase in force continued. The total force actually at work for the Commission, on January 26, was 29,750, an increase of 2,506 over the force at work December 29. The only laborers imported during the month were 230 from Trinidad, who were assigned to the Panama railroad relocation, and many of whom deserted without rendering any service. The increase of 2,506 in the Commission's force, therefore, seemingly proves that independent immigration and the surplus of labor already on the Isthmus, can be depended upon to a considerable extent to meet any demand for an increased number of laborers. The total force of the commissary, the Panama railroad, and the Panama railroad relocation, not included in the above total, was 7,636, so that the total force at work January 26, for the Commission and Panama railroad, was 37,386.

On January 31, there were 83 applications on the No. 1 list of applications for family quarters, and 426 applications on the No. 2 list, a decrease of 5 on the No. 1 list, and an increase of 24 on the No. 2 list, as compared with December 31. Of these applicants, approximately 100 are occupying regular family quarters, or nonhousekeeping family quarters, at stations other than those at which their applications are filed.

Subsistence Department.

The operation of the European laborers' messes, the colored laborers' kitchens, and the line hotels showed a net profit of $5,213.98, and the operation of the Hotel Tivoli showed a net profit of $1,618.04, the net profit on subsistence operations being $6,832.02.

Department of Civil Administration.

The Supreme Court of the Canal Zone disposed of one civil case; the circuit courts of 6 civil and 31 criminal cases, and the district courts of 82 civil and 523 criminal cases.

DIVISION OF POSTS, CUSTOMS AND REVENUES.

The net revenues of the Canal Zone were $51,706.56. The receipts from stamp and card sales and newspaper postage aggregated $8,322.86. The total of money order sales was $422,043.32, and money order fees amounting to $1,850.32 were collected.

During the month, 19 vessels entered at and 20 vessels cleared from the port of Ancon, and 15 vessels entered at and 19 vessels cleared from the port of Cristobal.

DIVISION OF POLICE AND PRISONS.

The number of arrests during the month was 533, a decrease of 83, as compared with December. At the close of the month, 146 persons were confined in the district jails.

Twelve convicts were committed to the penitentiary during the month, and 8 were discharged, and on January 31st, 115 convicts were confined in the penitentiary. The labor of the prisoners was utilized in the construction of the Empire-Paraiso road and the grading of streets in West Culebra. The cost of guarding and subsisting convicts was $2.624.01, and the value of work performed by them was $1,715.60.

DIVISION OF FIRE PROTECTION.

Ten fires were reported during the month, and one false alarm responded to. The estimated value of Commission and railroad property involved was $36,200, and the damage $1,122.

DIVISION OF PUBLIC WORKS.

In the city of Panama, the average daily consumption of water during the month was 971,593 gallons, and in Colon, 725,983 gallons.

The usual inspection and maintenance work of this division was performed during the month.

DIVISION OF SCHOOLS.

The total enrollment in the white schools was 819, and the average daily attendance 715.8, or 87 per cent of the enrollment, and in the colored schools, the total enrollment was 1,086, and the average daily attendance 691.1, or 63 per cent of the enrollment. The approximate average number of pupils belonging to the Canal Zone high school in January was 43, and the daily attendance 40, or 93 per cent.

Department of Sanitation.

The death rate per thousand on an assumed total population in the cities of Panama and Colon, and the Canal Zone, was 21.26, as against 22.86 for January, 1909. The death rate per thousand among employes of the Isthmian Canal Commission and Panama railroad for disease was 7.21, violence 3.36, total 10.57.

One death from yellow fever, in the person of a young Englishman, who recently arrived, occurred at Ancon Hospital on January 24. The deceased arrived in Panama on January 6, and from what can be ascertained by inquiry was taken ill on January 8. The case was diagnosed as yellow fever on January 22. It was also ascertained from the sister of the patient, who was temporarily residing in Panama, that he left the ship while in the harbor of Cartagena, Colombia, and visited the native town, and it was there that he undoubtedly got his infection. A thorough fumigation was undertaken, on January 24, of the building in which the deceased lived while in Panama, as well as the factory in which he worked. Because of the time that has elapsed since he was admitted to Ancon Hospital, the Chief Sanitary Officer considers it fair to assume there is no possibility of other infections in Panama from this case. With this exception, no case of yellow fever, plague, or smallpox occurred during the month, and the general health conditions were excellent.

Respectfully,

GEO. W. GOETHALS,
Chairman.

PERSONAL.

Lieut.-Col. F. H. Hardie, Maj. H. X. Ripley, and Maj. Parker West of the United States Cavalry are on the Isthmus inspecting the Canal work.

Col. Frank J. Hecker of Detroit, a member of the first Isthmian Canal Commission appointed under the Spooner Act, returned to the States on the *Turriatba* on February 22, after spending a fortnight inspecting the Canal work.

General W. W. Wotherspoon, U.S.A., Mrs. Wotherspoon, and Mr. Alexander Wotherspoon; Major W. G. Haan, U. S. A., and wife; Commander W. J. Maxwell, U. S. N., and Commander H. F. Knapp, U. S. N., were passengers on the *Cristobal*, which arrived at Cristobal, on Tuesday, February 22.

Major Henry A. Brown, U.S.A., Chaplain, Corps of Engineers, has been assigned to duty at Culebra. He will have charge of Trinity Episcopal Church at Culebra, and St. Mary's, Empire.

Visit of Editors.

Members of the National Editorial Association of the United States, with a few guests, about 135 persons in all, arrived at Colon on the *Cartago* from New Orleans on February 18. They were met by the Chairman and Chief Engineer and brought in a special train to Panama, where arrangements for their accommodation had been made at the Hotel Tivoli. While on the Isthmus they were taken over the line of the Canal in special trains and given opportunity to view all parts of the work. On the evening of February 19, a smoker was held in their honor by the Independent Order of Panamanian Kangaroos in the hall of that order in Empire, and on the night of the 20th, an informal meeting was held at the Hotel Tivoli, at which a number of addresses were made. They left on the return trip to New Orleans on February 23.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Bas Obispo, C. Z., on Sunday, February 27, 1910, at 6 p. m. The program follows:

1 March—*King Sol*.......................Glogau
2 Selection—*Prima Donna*..................Herbert
3 Barn Dance—*Stack of Fun*..................Rolfe
4 Overture—*Fest*..........................Latann
5 Flower Song—*Adoration*..................Barnard
6 Medley Selection—*Songs of the Day*.......Lampe
Introducing "It Looks Like a Big Night To-night," "Shine On, Harvest Moon," "When I Marry You," "I Want Some One to Call Me Dearie," "I Used to Be Afraid to Go Home in the Dark," "Golden Arrow," "Dear Heart," "Honeyland" and Finale.
7 Waltz—*Symposia*.......................Bendix
8 { *a Russian Pony Rag*...................Ramsay
{ *b* Two Step—*Mollie Lee*...................Morse
9 Serenade—*La Paloma*....................Xradier
10 Galop—*The Races*......................Barnard

CHAS. E. JENNINGS, *Musical Director*.

A concert will be given at Empire on Sunday, March 6, at 6 p. m.

SOCIAL LIFE OF THE ZONE.

Women's Clubs.

At the literary meeting of the Cristobal Woman's club, on February 16, Dr. J. F. Leys, superintendent of Colon Hospital, made an address on "Infectious Diseases," the lecture being illustrated by blackboard drawings. The program was followed by a social half hour, tea being served.

The Gatun Woman's club will entertain the Sunshine Society at its meeting on Friday, February 25. The meeting will be held at the home of Mrs. William L. Sibert. It is expected that the meeting on March 4, will be held in the new clubhouse.

The bimonthly meeting of the Pedro Miguel Woman's Club, was held at the clubhouse on Wednesday afternoon, February 16. The club has extended an invitation to the president of the Canal Zone Federation for the meeting on March 2. There will be an exhibit of the Federation traveling art gallery on that day. Mrs. H. Girdner has been appointed secretary during the absence of Mrs. E. Brown.

The Empire Woman's Club will hold a reception in honor of Mrs. H. C. Ball at the clubhouse on Thursday afternoon, March 3, from 3 to 5 o'clock. A cordial invitation is extended to all ladies of Empire. Mrs. Ball, who has been active in club and public work during her residence in Empire, is leaving to make her home in Rochester, N. Y.

Miscellaneous Events.

A dance and reception was held by the Pythian Sisters at the lodge hall, Empire, on the evening of February 14. There was a large attendance. The officers of the order, recently installed, are: Mrs. E. Miller, past chief; Mrs. E. Catto, most excellent chief; Mrs. Burnham, most excellent senior; Mrs. A. Williams, most excellent junior; Mrs. G. Heinrich, mistress of the temple; Mrs. F. Walraven, keeper of records and corresponding secretary; Mrs. F. Benninger, mistress of finance. The order includes in its membership residents from various parts of the Canal Zone. Official headquarters are at Empire, where the meetings are held.

The monthly meeting of the Empire Masonic Club was held in the lodge hall on Wednesday evening, February 16, when there was an attendance of 60 members. A paper on the history and development of the Masonic order was read by Mr. Wilde.

Church Notes.

At a meeting of the Empire Christian League held at the Commission chapel on Wednesday evening, February 16, there was a short business meeting followed by a program consisting of vocal solos, readings, recitations, and piano selections. Mr. W. W. Warwick, president of the league, made an address. Refreshments were served by a social committee composed of Mrs. W. O. Johnson, chairman, Mrs. W. W. Warwick, Mrs. E. P. Beck, Mrs. A. O. Ludwig, Mrs. E. C. Mills, Mrs. P. Hall, Mrs. Akers, Mrs. Mason, and Miss Sophie Johnson. A number of guests from Culebra were present. There was an attendance of 150.

Services at St. Luke's Church, in Ancon, will be held during Lent as follows: Wednesday and Friday, 9 a. m., litany; Wednesday, 8 p. m., evening prayer; Friday, 3.45 p. m., children's service followed by evening prayer at 4 o'clock. The Woman's Guild will hold meetings during Lent on the first and third Mondays as usual, and on other Mondays at the residence of the chaplain, from 3 to 5 p. m. The Church Periodicals Club has made a present of books to the Sunday school library and they will be ready for distribution on February 27. A Bible class has been organized, with Judge Wesley Owen as teacher. The Rev. Henry B. Bryan, chaplain, returned from his leave in the States on the *Colon*, which arrived at Cristobal on February 16.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., February 16, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Bartley, John J.
Bishop, Miss Irene
Brown, E. A.
Campbell, Eustace
Cassell, J. S.
Clare, Thos.
Cornell, E. N.
De La Vergne, John
Garrod, J. Arthur
Goldberg, Miss D.
Golden, Mrs. Louise
Gray, Mrs. F. A.
Hardwick, H. L.
Henshaw, Mr. & Mrs. W. P.
Hoffman, Jr., John L.
Jackson, Alex
Johnson, W. D.
Keegan, J. J.
Kindred, Mr. & Mrs. T. E.
Lofton, Ed R.
Lucas, Mrs. J. J.
Ludwig, A. O.
McAleer, Mrs.
McNulty, C. F.
Malone, Jr., R. A.
Markes, F. S.
Martinez, Francisco Roger
Matchett, Marion
Morrison, Edw.
Pearce, Miss Emily J.
Purcell, Thomas
Purcell, P.
Rohs, H.
Shuman, Edw. C.
Souders, Ervin
Sublett, Allen
Walling, Earl
Walling, C.
Weigold, Louis F.
Windson, Mrs. H. H.

LETTERS UNCALLED FOR FEBRUARY 23, 1910.

Anderson, John J.
Baughber, Robert
Benson, A.
Bowlen, M. E.
Bridge, William S.
Braddish, Frank C.
Bradshaw, W. R.
Burke, Henry S.
Cameron, Billy C.
Carpenter, C. L.
Carter, Charles
Cassidy, Edward
Clark, Walter D.
Cleary, John,
Clyde, Mrs. Joseph
Coutermarsh, Capt. H. William (2)
David, E. I.
Delancey, Dr. W. W. (2)
Doss, B. B.
Elliott, W. M.
Evans, Joe A.
Ferri, Juan G.
Fink, Mrs. Joseph
Frederickson, Albert (2d class)
Freehan, P. A.
Green, J.
Hallowell, Cooper
Harrington, Cliff
Hill, Julia M. (2d class)
Holmes, Bert
Horton, Stanley B.
Jacobson, Mrs. Ida
Joeffrey, Joseph
Keene, Mrs. R. F.
Kendrick, Patrick G.
Long, C. E.
Lucas, Mrs. J. C.
McPeek, W. J.
Neibauer, Theodore
Nixon, F. M.
O' Leary, Joseph
Pennington, James
Rainford, L.
Raper, W. K.
Reynolds, Mrs. Hilma
Ross, W. G.
Sanders, J. T.
Sanger, Victor
Schiefler, Bernard
Stevens, Charles Jos.
Thayer, J. P.
White, H. J.
Wilson, George
Yokman, R. L.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, February 19, 1910.

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft..	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Feb. 13.....	127.0	94.4	48.0	5.1	1.5	1.1
Monday, Feb. 14....	126.9	94.3	47.9	4.8	1.4	1.1
Tuesday, Feb. 15...	127.4	94.5	48.0	5.1	1.3	1.1
Wed'esday, Feb. 16	127.2	94.5	48.0	5.1	1.7	1.4
Thursday, Feb. 17..	126.9	94.3	47.8	4.8	1.7	1.3
Friday, Feb. 18.....	126.7	94.1	47.7	4.4	1.6	1.2
Saturday, Feb. 19...	126.6	94.0	47.5	4.2	1.6	1.3

Proposals for Furnishing Plantain and Banana Plants.

Sealed proposals will be received at the office of the Depot Quartermaster, Mount Hope, C. Z., until 3 o'clock p. m. March 10, 1910, for the furnishing of 300 standard banana plants and 300 standard plantain plants. Samples of plants for sale must be submitted. Proposals should show the unit price per hundred, or dozen, and should be addressed to the Purchasing Agent on the Isthmus, Mount Hope, C. Z., plainly marked "Proposals for furnishing banana and plantain plants, to be opened March 10, 1910." At the time and place above specified the bids will be opened in the presence of attending bidders. The Government reserves the right to reject any or all bids.

C. NIXON,
Purchasing Agent on the Isthmus.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

On Wednesday night, February 16, a meeting was held for the purpose of organizing a Spanish class. Fourteen have joined.

The dark room is being repaired and will soon be ready so that members can develop and finish their pictures at any time. It is desired that the Camera club have more members, in order that a larger number may enjoy the outings.

The Edith Harris-Scott Concert Company rendered a pleasing program for the return engagement on Tuesday, February 15.

It has been decided to give three medals in the bowling tournament, one for high score, one for high average, and one for the greatest number of games won.

The present standing in the duck pin bowling tournament is as follows:

	Won.	*Lost.*		*Won.*	*Lost.*
Palmer	9	3	Fish	6	1
Frederick	5	3	Mason	1	2
Herson	4	8	Brown	2	5
Huson	7	2	Korsan	4	4
Case	10	4	Lamster	4	4
McRaven	0	1	Hall	1	3
Ragan	3	5	Tupper	1	2
Hostetter	3	2	Roberts	8	2
Mengel	10	8	Fitzgerald	1	8
Teague	4	6	Warner	1	1

EMPIRE.

The Edith Harris Scott-Concert Company gave a return engagement at Empire on February 18 to an appreciative audience.

Empire defeated Gorgona in a close and exciting game at indoor baseball on Saturday night. Gorgona did some exceptionally fine fielding. Score: Gorgona 17, Empire 20.

All members interested in a basketball team are requested to hand their names to Mr. Ludwig. If sufficient material can be mustered, a team will be organized.

Interest in the "gym" classes continues and a number of members have been helped physically. All interested in physical training are invited to make appointment with Mr. Ludwig. Regular classes are held Mondays and Thursdays, from 7.30 to 9 p. m.

The 1910 Isthmian duck pin championship, singles and doubles, will be rolled at Empire on successive Saturday nights, beginning March 5. All associations, including Gatun, are requested to enter at once through Mr. A. O. Ludwig, assistant secretary, Empire. Fee of $1.25 must accompany each entry. Medals will be presented.

The Spanish class is holding sessions every Friday night. Other members desiring to enter are requested to be present at 7 p. m. on Friday of this week.

GORGONA.

Mr. Jess T. Hopkins arrived on the Isthmus on Wednesday, February 16, and assumed his duties as physical director and assistant secretary of the Gorgona Y. M C. A. Mr Hopkins is from the Y. M. C. A. Training School at Springfield, Mass. He has been in active work as physical director for several years in Young Men's Christian Associations at Billings, Montana, and at Wichita, Kan.

Mr. Charles R. Drum, secretary of the international committee of the Y. M. C. A., will hold a conference of picked workers on Wednesday evening at 8 p. m., in the game room, in preparation for the meetings that are to follow. He will address the men of the Gorgona shops at a shop meeting Thursday noon, at 12.15. There will be a meeting to which all women of Gorgona are invited to attend on Sunday afternoon, February 27, at 4 p. m. The subject for the women's meeting will be "That Boy." Sunday night, at 8 p. m., Mr. Drum will give his talk, "An Honest Man," to the men of Gorgona. Although there are 675 men in Gorgona, the Y. M. C. A. hall will seat only 300. Come early to make sure of a seat.

CRISTOBAL.

About one hundred men gathered at the Y. M. C. A., Sunday afternoon at 4 o'clock to listen to an address by Mr. Charles R. Drum of New York on "An Honest Man." Mr. Drum's remarks were very forceful as well as eloquent, and the keenest attention was given by the audience. Special music was furnished by the P. R. R. orchestra. Mr. Drum will deliver his second address to men on Thursday, February 24, at 8 p. m. Mr. Drum spoke at the Cristobal high school, Friday afternoon, and as a result of this meeting, a boys' Bible club has been organized with fifteen members.

The men of the Cristobal association are enthusiastic over a Bible study rally to be held on Monday, February 28, at 8 p. m. Judge Thomas E. Brown, Jr., will teach a sociological course prepared by Professor Jeremiah Jenks of Cornell University.

The "Knut-Splitters" defeated the "Head-Liners" in a league game of basketball, Wednesday night, February 16, by a score of 36 to 18.

A farewell smoker was given in honor of Mr. Mitchell last Friday night, the following program being rendered: Solo, Mr. Bennyhoff; sleight-of-hand exhibition, Mr. Patton; cartoon drawings, Mr. Auerbach; "A Booking Act," by the Gorgona Dramatic Club; dancing by Mr. Lindberg; balancing, juggling and contortion work, by Mr. Pounder. A few remarks were made by Mr. Drum, Judge Brown, and Mr. Mitchell.

OFFICIAL CIRCULARS.

Transfer of Plant.

EMPIRE, C. Z., February 15, 1910.

CIRCULAR NO. 22:

Where items of plant are transferred between divisions of the Isthmian Canal Commission, or between the Commission and the Panama Railroad Company, the regular form Q. M. D. 4, transfer invoice and receipt, will be issued, the following information being shown thereon in addition to that provided for on the blank:

Class of equipment, whether steam shovel, locomotive, flat car, etc.

The serial number assigned to same.

Date of entry into service.

Original value.

Amount of depreciation at 1 per cent per month.

Net transfer value.

Designation of accounts to be credited and debited.

Where plant is transferred at an appraised value fixed by the Surveying Officer, that fact should be stated.

It is necessary that an extra copy of such transfer invoice be made and forwarded to the Examiner of Accounts supporting the monthly report 132 C. E. by the issuing division, after acceptance by the receiving division.

W. W. WARWICK,
Examiner of Accounts.

Approved:
GEO. W. GOETHALS,
Chairman and Chief Engineer.

Signal and Interlocking Work.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT.
COLON, R. P., February 16, 1910.

CIRCULAR NO. 46:

All Concerned—All signal and interlocking work, with the forces connected therewith, are hereby transferred from the Department of Telegraph and Telephones to the Engineering Department.

J. A. SMITH, *General Superintendent.*

Approved:
GEO. W. GOETHALS, *President.*

Acting Superintendent of Telegraph and Telephones.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT.
COLON, R. P., February 16, 1909.

CIRCULAR NO. 45:

All Concerned—Mr. A. B. Kratz is appointed Acting Superintendent of Telegraph and Telephones, vice Mr. J. Beaumont, resigned.

J. A. SMITH, *General Superintendent.*

Approved:
GEO. W. GEOTHALS, *President.*

ISTHMIAN LEAGUE.

RESULTS OF GAMES, FEBRUARY 20.

Gorgona, 9; Ancon, 0; (Umpire awarded game because of nonappearance of Ancon. Decision has been protested.)

Gorgona, 13; Ancon, 4.

Empire, 8; Marines, 1.

RESULTS OF GAMES FEBRUARY 22.

Empire, 5; Gorgona, 2.

Ancon, 5; Marines, 0.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*P.*	*W.*	*L.*	*Pc.*
Gorgona	15	11	4	.734	Ancon	13	6	7	.461
Empire	13	9	4	.692	Marines	15	2	13	.134

SCHEDULE FOR FEBRUARY 27.

Marines at Ancon.

Empire at Gorgona.

Gorgona.	AB.	H.	PO.	A.	E.
Dougherty, 2b	5	2	2	3	2
Magee, lf	4	0	1	0	0
Barney, rf	3	3	2	0	0
Wright, 1b	2	1	9	0	1
Herring, c	5	4	8	0	2
Cole, ss	3	1	0	1	1
Clements, cf	4	1	1	0	0
Emery, 3b	4	3	3	4	2
Case, p	3	1	1	2	1
*Ridge	0	0	0	0	0
Totals	33	16	27	10	9

Ancon.	AB.	H.	PO.	A.	E
Pearman, 3b	2	0	1	2	0
Nygren, 1b, p	4	0	6	3	0
Keller, ss, 2b	5	2	0	1	0
Smith, 2b, 1b	5	1	4	1	1
Hunter, cf	3	1	4	1	1
Frampton, c	4	0	6	2	0
Tinsley, p, ss	3	0	2	4	1
Poltrino, rf	4	1	0	0	0
Cushing, lf	4	1	1	1	0
Totals	34	6	24	15	3

*Ran for Wright in 2d.

Gorgona	3	1	2	0	5	1	0	1	x	—13
Ancon	1	0	0	3	0	0	0	0	0	— 4

Runs—Gorgona: Dougherty, Barney (3); Wright, Herring (3); Cole, Clements, Emery, Case, Ridge. Ancon: Pearman, Smith, Hunter, Frampton. Runs earned—Gorgona, 6. Two base hits—Dougherty, Herring. Home run—Emery. Sacrifice hits—Magee, Wright (3); Case, Pearman, Nygren, Hunter, Tinsley. Stolen bases—Barney (3); Herring (4); Emery, Cole, Tinsley. Bases on balls—Off Case, 2; off Tinsley, 2; off Nygren, 1. Struck out—By Case, 8; by Nygren, 2. Hit by pitcher—By Tinsley—Barney; by Case—Pearman. Left on bases—Gorgona, 5; Ancon, 10. Double play—Emery to Dougherty to Wright. Wild pitches—Nygren, Tinsley. Passed balls—Frampton, Herring. Umpire—Irwin. Time of game—2.20. Scorer—D. G. Hayes.

Empire.	AB.	H.	PO.	A.	E
Dixon, ss	5	2	4	2	0
S. Fluh'ty, 3b	4	2	0	2	1
Bell, 1b	4	1	11	2	0
Christopher, rf	3	3	2	0	0
Moore, c	2	1	8	0	0
E. Fluh'ty, lf	4	1	0	0	0
Markley, 2b	4	1	1	1	0
Murphy, cf	2	0	1	0	0
Marshall, p	4	0	0	6	0
Totals	32	11	27	13	1

Marines.	AB.	H.	PO.	A.	E
Hurrle, lf	2	0	1	0	0
Maguire, 1b	3	0	14	2	0
Todd, cf	4	1	0	0	0
Snyder, 2b	3	1	2	4	1
Lubomski, c	4	0	7	4	1
Burke, rf	2	1	0	0	0
Egan, ss	4	0	0	0	0
Volman, 3b	3	1	1	2	0
Munsen, p	3	0	2	5	0
Totals	28	4	27	17	2

Empire	0	1	0	1	0	2	2	1	1	—8
Marines	0	0	0	0	0	0	0	1	0	—1

Runs—Empire: Dixon (2); S. Fluharty, Bell, Christopher (2); Murphy, Marshall. Marines: Volman. Runs earned—Empire, 4. Two base hits—Bell, Christopher. Sacrifice hits—S. Fluharty, Christopher Moore (2.) Sacrifice fly—Hurrle. Stolen bases—Dixon, S. Fluharty, Markley, Marshall, Maguire, Snyder. Bases on balls—Off Munsen, 2; off Marshall, 3. Struck out—By Munsen, 7; by Marshall, 8. Hit by pitcher—By Marshall—Snyder and Burke. Left on bases—Empire, 3; Marines, 6. Umpire—Bain. Time of game—1.40. Scorer—J. B. Burke.

ATLANTIC LEAGUE.

RESULTS OF GAMES, FEBRUARY 20.

Panama Railroad, 7; Civil Administration, 3.

Commissary-Subsistence, 4; Colon, 2.

RESULT OF GAME, FEBRUARY 22.

Commissary-Subsistence, 10; Panama Railroad, 6.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*P.*	*W.*	*L.*	*Pc.*
Com-Sub	7	6	1	.856	Civ. Adm	6	2	4	.333
P. R. R	5	2	3	.400	Colon	4	1	3	.250

SCHEDULE FOR FEBRUARY 27.

Panama Railroad vs. Colon.

P. R. R.	R.	H.	PO.	A.	E.
Bryan, lf	1	3	0	0	0
McGinniss, cf	2	3	0	0	0
Woods, p	1	1	2	2	0
Lewis, c	1	1	10	3	0
Bradley, 2b	0	0	2	0	1
Dockery, 3b	0	0	0	1	0
Banter, rf	0	0	0	0	1
Vifquain, ss	1	1	0	0	2
Hiller, 1b	1	0	7	0	1
Total	7	9	21	6	5

C. A.	R.	H.	PO.	A.	E
Edwards, 1b	0	0	9	0	0
Farrar, cf	2	2	1	0	0
Fechtig, lf	0	1	0	2	0
Reiss, ss	1	2	2	3	0
Fleichman, 3b	0	1	2	3	0
Morrill, 2b	0	0	0	1	0
Horsey, rf	0	0	0	0	0
Roos, c	0	0	3	1	1
Russell, p	0	0	1	2	0
Totals	3	6	18	12	1

Panama Railroad	0	0	5	0	2	0	x—7
Civil Administration	1	0	2	0	0	0	0—3

Runs earned—P. R. R., 3. Two base hits—McGinnis, Lewis, Bradley. Sacrifice fly—Banter. Stolen bases—McGinnis, Wood, Bradley (2); Edwards, Farrar (2); Reiss. Bases on balls—Off Russell, 2; off Woods, 5. Struck out—By Russell, 3; by Woods, 9. Hit by pitcher—Hiller. Left on bases—P. R. R., 5; C. A., 8. First base on errors—P. R. R., 1; C. A., 3. Umpire—Rohr. Time of game—1.20. Scorer—Rennard.

Colon.	R.	H.	PO.	A.	E
Calvert, lf	0	1	1	0	0
Morton, ss	0	2	1	3	0
Jeffries, 2b	0	0	4	0	0
Kenney, c	0	0	7	1	0
Baily, p	0	0	1	3	0
Hope, cf	1	0	0	0	0
Weber, 3b	1	0	0	1	0
Stevens, rf	0	0	0	0	0
Sprechen, 1b	0	0	7	0	1
Total	2	3	21	8	1

C.-S.	R.	H.	PO.	A.	E
Lindberg, cf	1	0	0	0	0
Smith, 3b	0	1	1	0	0
McCormick, lf	0	0	0	2	0
Curtis, ss	1	1	3	3	0
Muggleton, 2b	0	0	2	5	0
Payne, 1b	0	0	8	0	0
Coffin, p	0	0	0	2	1
Reese, rf	0	0	0	0	0
Beard, rf, p	1	0	1	0	0
McCusty, c	1	1	6	0	0
Totals	4	3	21	12	1

Colon	0	0	0	0	2	0	0—2
Commissary-Subsistence	1	1	1	1	0	0	0—4

Runs earned—C.-S., 1. Two base hits—Morton, Curtis, First base on errors—C.-S., 1. Passed balls—Kenney (2.) Stolen bases—Kenney (2); Hope, Lindberg (3); Smith, Curtis, Coffin. Bases on balls—Off Bailey, 7; off Coffin, 6; off Beard, 2. Struck out—By Bailey, 6; by Coffin, 1; by Beard, 4. Hit by pitcher—Kenney, Lindberg. Left on bases—Colon, 6; C.-S., 7. Double plays—Curtis to Muggleton; Muggleton to Curtis. Umpire—Rohr. Time of game—1.30. Scorer—Rennard.

Proposals for Excavation in Canal Prism.

OFFICE OF CHIEF QUARTERMASTER,
CULEBRA, C. Z., February 1, 1910.

Sealed proposals for excavation of a section in the Canal prism, near Tabernilla, containing about 36,138 cubic yards, and a section near Bohio, containing about 166,272 cubic yards, will be received here until 2 p. m., March 1, 1910, and then opened. Full information will be supplied by the Division Engineer, Empire. Envelopes containing proposals must be indorsed "Proposals for excavation in Canal prism," and addressed C. A. DEVOL, *Chief Quartermaster.*

COMMISSARY DEPARTMENT.

A shipment of pheasants, grouse, and partridges, 200 of each, has been received in cold storage from England. The pheasants will sell at 70 cents for a hen and $1 for a cock, grouse at 85 cents each, partridges at 50 cents each.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning February 19:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	24
Chops	per lb	26
Cutlets	per lb	25
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	20
Beef—Suet	per lb	2
Soup	per lb	5
Stew	per lb	9
Corned	per lb.	12, 14, 16
Chuck roast	per lb	13
Pot roast	per lb	15
Rib-roast, second cut (not under 3½ pounds)	per lb	18
Rib-roast, first cut (not under 3 pounds)	per lb	20
Sirloin roast	per lb	21
Rump roast	per lb	21
Porterhouse roast	per lb	21
Steak, Chuck	per lb	14
Round	per lb	15
Rib	per lb	20
Sirloin	per lb	21
Porterhouse	per lb	21
Rump	per lb	21
Tenderloin	per lb	24
Venison, stew	per lb	12
Forequarter (not under 6½ lbs)	per lb	16
Rack (not under 5½ lbs)	per lb	27
Saddle (not under 7½ lbs)	per lb	27
Leg (not under 9 lbs)	per lb	27
Chops	per lb	28
Cutlets	per lb	28

MISCELLANEOUS.

Livers—Beef	per lb	8
Calf	each	60
Half	each	30
Sausage—Pork	per lb	14
Bologna	per lb	14
Frankfurter	per lb	14
Leberwurst	per lb	14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	25
Oysters, in 1-quart kegs	keg	55
Oysters, in ½-gallon kegs	keg	90
Eggs, fresh	dozen	*34

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each	70, 82, 93, 1.04, 1.15
Ducks, large	each	1.50
medium	each	1.30
Broilers	each	75
Turkeys	per lb	28
Squabs	each	35
Capons	each	2.50
Geese	each	2.50
Rabbits	each	50
Pheasants	each	70, 1.00
Partridges	each	50
Grouse	each	85

CURED AND PICKLED MEATS.

Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Sugar cured	per lb	19
Sugar-cured, sliced	per lb	24
Half, for boiling	per lb	20
Boiled	per lb	26
Hocks	per lb	‡8
Bacon—Breakfast, whole piece	per lb	24
Breakfast, sliced	per lb	25
Beef, salt, family	per lb	9
Pork, salt, family	per lb	15
Ox tongues	each	80
Pigs' feet	per lb	8
tongues	per lb	16
Mutton, mess	per lb	7

DAIRY PRODUCTS.

		Price.
Butter—Creamery special	per lb	40
Cheese—Roquefort	per lb	38
Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	26
Edam	each	1.00
Neufchatel	each	6
Gouda	per lb	34
Milk, Briarcliff	bottle	**25
Butter	bottle	**15

VEGETABLES AND FRUITS.

Celery	per hd	8
Lettuce	per hd	8, 11, 14
Cucumbers	per lb	18
Potatoes, white,	per lb	3
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	3
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	3
Cabbage	per lb	3
Lemons	dozen	24
Apples,	per lb	5
Tangerines	each	2
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal, Colon and Balboa, during the week ending February 19, 1910, with supplies for the Isthmian Canal Commission:

Ortona, February 13, from New York, with 22 tons washers for stock;

Chatham, February 15, from Puget Sound, with 20,000 feet lumber for Atlantic Division; 87,000 feet lumber for car repairs; 1,316,111 feet lumber for stock.

Indianapolis, February 15, from Brunswick, with 6,000 cypress cross-ties for stock.

Cuban, February 11, from Liverpool, with 145 barrels crude carbolic acid for manufacture of larvacide.

Colon, February 16, from New York, with 645 packages hospital supplies, etc., for Sanitary Department; 92 cases drill repair parts, 12,500 pounds sal soda, 50,000 pounds alum, 17 tons galvanized iron, 430 kegs nails, 253 tons wrought steel pipe, 20 tons chain, 10,000 pounds Keystone grease, 3 tons nuts, 4 tons spring steel; 29 tons rivets, and 15,000 electric fuses for stock; 300 pairs rubber boots, 8 tons structural material for movable towers, 3 tons dredge repair parts, and 1 boring and turning mill for Atlantic Division; 125,000 feet telephone wire for Pacific Division; 21 tons casting for cars; 115 tons steel castings, etc. for construction of locks; 10 transformers for electrical engineer; and a miscellaneous cargo aggregating 5,131 packages, weighing 734 tons.

Turrialba, February 17, from New Orleans, with 217 switch ties, 74,000 feet flooring, 30,000 feet lumber, 17 reels wire cable, and 2 tons pipe-fittings for stock; 5,000 feet white oak lumber, and 53,000 feet yellow pine lumber for Pacific Division.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending March 2, 1910 (75th meridian time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	P. M.	P. M.	P. M.
February 24.	4.11	10.20	4.35	10.45	....
February 25.	4.52	11.00	5.12	11.22	....
February 26.	5.28	11.37	5.45	11.57	....
		P. M.			
February 27.	6.02	12.12	6.17	....	....
		A. M.	A. M.		
February 28.	....	12.32	6.33	12.45	6.47
March 1.	....	1.07	7.02	1.18	7.17
March 2.	....	1.42	7.32	1.50	7.47

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Sale of Unclaimed Shipments.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT.
COLON, R. P., February 5, 1910.

In order to recover freight and storage charges, the Panama railroad will dispose of the accumulation of over and unclaimed shipments now in its possession, by public auction, Tuesday, March 8, 1910, at 9 a. m., sale to be held on Dock 11, Cristobal, C. Z.

The items to be sold consist of a miscellaneous assortment of wines, liquors, household goods, building material, stationery, groceries, dry goods, machinery and merchandise in general, all of which has been held six months and over in an effort to locate owner.

J. A. SMITH,
General Superintendent.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Advance	P. R. R.	Wednesday	Feb. 16
Panama	P. R. R.	Wednesday	Feb. 23
Allianca	P. R. R.	Tuesday	Mar. 1
Colon	P. R. R.	Monday	Mar. 7
Advance	P. R. R.	Saturday	Mar. 12
Panama	P. R. R.	Friday	Mar. 18
Allianca	P. R. R.	Thursday	Mar. 24
Colon	P. R. R.	Thursday	Mar. 31

CRISTOBAL TO NEW YORK.

Advance	P. R. R.	Monday	Feb. 28
Panama	P. R. R.	Monday	Mar. 7
Allianca	P. R. R.	Sunday	Mar. 13
Colon	P. R. R.	Saturday	Mar. 19
Advance	P. R. R.	Friday	Mar. 25
Panama	P. R. R.	Thursday	Mar. 31
Allianca	P. R. R.	Wednesday	Apr. 6
Colon	P. R. R.	Tuesday	Apr. 12

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

NEW YORK TO COLON.

Santa Marta	U.F.C.	Thursday	Feb. 17
Nile	R.-M.	Saturday	Feb. 19
Metapan	U.F.C.	Thursday	Feb. 24
Prinz Joachim	H.-A.	Saturday	Feb. 26
Zacapa	U.F.C.	Thursday	Mar. 3
Tagus	R.-M.	Saturday	Mar. 5
Almirante	U.F.C.	Thursday	Mar. 10
Santa Marta	U.F.C.	Thursday	Mar. 17
Oruba	R.-M.	Saturday	Mar. 19
Metapan	U.F.C.	Thursday	Mar. 24
Zacapa	U.F.C.	Thursday	Mar. 31
Magdalena	R.-M.	Saturday	Apr. 2
Clyde	R.-M.	Saturday	Apr. 16
Atrato	R.-M.	Saturday	Apr. 30

COLON TO NEW YORK.

Tagus	R.-M.	Wednesday	Feb. 23
Santa Marta	U.F.C.	Sunday	Feb. 27
Prinz Aug. Wilhelm	H.-A.	Tuesday	Mar. 1
Metapan	U.F.C.	Sunday	Mar. 6
Zacapa	U.F.C.	Sunday	Mar. 13
Almirante	U.F.C.	Sunday	Mar. 20
Santa Marta	U.F.C.	Sunday	Mar. 27
Metapan	U.F.C.	Sunday	Apr. 3
Zacapa	U.F.C.	Sunday	Apr. 10

All the steamers of the Hamburg-American and Royal Mail lines call at Kingston enroute to Colon.

NEW ORLEANS TO COLON.

Abangarez	U.F.C.	Saturday	Feb. 19
Atenas	U.F.C.	Saturday	Feb. 26
Turrialba	U.F.C.	Saturday	Mar. 5

COLON TO NEW ORLEANS.

Abangarez	U.F.C.	Tuesday	Mar. 1
Atenas	U.F.C.	Tuesday	Mar. 8
Turrialba	U F.C.	Tuesday	Mar. 15

COLON TO BARBADOS, CALLING AT TRINIDAD.

Nile	R.-M.	Tuesday	Mar. 1

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The next sailing of the Leyland Line will be as follows: *Alexandrian* for New Orleans, via Kingston, Ja., on or about March 7.

All Royal Mail steamers mentioned above leave early in the morning from Colon via Kingston, Jamaica, for New York. All mail and passengers should be on board early on day of sailing.

LOST—On February 14, between Ancon Hospital and Panama railroad station, one employe's 24-round trip pass book, one hotel meal book No. 162802H, and one commissary coupon book No. 50623. Any person finding same, and returning to the undersigned will be rewarded. O. F. Silver, *Tabernilla, C. Z.*

LOST—Between Empire and Culebra, on the noon, train on February 16, a small parcel containing a handkerchief and sewing materials. A reward will be paid for the return to the stationmaster at Empire.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, MARCH 2, 1910. No. 27.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications

THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Permanent Bridge Across Gatun Spillway.

A permanent bridge will be built across the Spillway of Gatun Dam, in order that spoil trains may continue the work of making the dry fill of the west section of the Dam, after the west diversion of the Chagres River is closed, and the water is turned through the Spillway. Experience during the past dry season has shown that it will be impossible to prevent the destruction of trestles by drifts carried down the river in time of freshet, and the bridge, for which approval has been given, provides for a span of sufficient width and high enough above the highest water to permit the passage of drift. Rock foundations are necessary, and, therefore, the crossing will be within the limits of the Spillway, and other considerations will bring it about halfway between the main lines of tracks over the north and south toes.

The total length of the bridge will be 286.36 feet, and there will be six spans. For the span across the center of the Spillway channel, the truss of the bridge across the Gatun River, on the old location of the Panama railroad, near Gatun, will be used, because this part of the line will be abandoned before the beginning of the next wet season, as the water in the lake would cover it when the west diversion is closed. This truss is 100 feet long, and it will be supported on piers of concrete built in the Spillway channel. West of the center truss, also supported on concrete piers, will be a girder span 58 feet long, remodeled from the 75-foot spans of the old bridge on the Panama railroad at Bas Obispo. East of the center span will be two girder spans, each 33 feet 11 inches long, also remodeled from girders formerly used on Panama railroad bridges. The connection with the east and west banks will be made by two girder spans to be constructed from materials already on the Isthmus, the west span to be 31.43 feet long, and the east span, 25.11 feet long. The elevation of the track will be 45 feet above sea level, about 40 feet above the floor of the Spillway. Work has been begun, in order that the bridge may be in use by the close of the dry season.

Old French Bridge at Gamboa.

Two truss spans of the iron bridge, built by the French across the Chagres River at Gamboa, are being taken down, and the parts are to be painted and marked according to the erection drawings, and stored until an opportunity for disposing of them is found. Both trusses are in good condition and would answer well in any service where heavy equipment is not used. The larger is 204.3 feet long, and the smaller 102.5 feet long.

This bridge was built by the old French company when it was preparing to construct a dam at Gamboa, as part of the plan for a sea level canal, the purpose being to haul materials across the river and up to the spillway on which work was in progress. It was about 365 feet long, the center and south spans being the trusses referred to, and the north span being a girder about 58 feet long. In the flood of 1890, this girder was carried away and the pier on which the channel end of it rested was tipped. In 1907, when the work on the Panama railroad relocation bridge at Gamboa was about to begin, the pier was righted and the two truss spans were used for construction purposes. A temporary trestle was built from the north end of the large, or channel span, to a point beyond the north abutment, and the south end of the small span was connected with a construction track in Culebra Cut at Bas Obispo. Over this trestle and bridge all material for construction of the piers of the new bridge was handled, and the trestle served as false work for eleven of the girder spans of the new bridge.

Preparing Lumber for Car Repairs.

Bids made by various firms in the United States for supplying machined lumber for car repairing show that it costs less to bring the lumber to the Isthmus in the rough and machine it at the various shops, than it would to have the dressing done in the States. The largest item in the lumber bill for cars is the repairing of wooden flat cars at Gorgona shops, where over 300,000 feet board measure are used each month. It was thought that if this lumber could be machined in the United States, and brought to the Isthmus ready to be placed in the cars, a saving might be effected in the planing mill.

During the past six months, about 80 per cent of the work in the planing mill at Gorgona has been on machining lumber for car repairs, and the cost of getting it ready has averaged $4.59 per thousand feet. This price includes the taking of lumber from the yard to the mill, machining it, loading it ready for delivery to the car shop, and foremen's time. On an average, 3,183 feet of yellow pine and 372 feet of oak are used in each car. The lowest bid submitted placed the cost of machining the lumber at $12 per thousand feet, making the cost for a car $42.66, while the cost at Gorgona shops is $4.59 per thousand feet, or $16.32 per car.

Ancon Corral Buildings.

Bids for the erection of the buildings at the new Ancon corral site, on the north slope of Ancon hill, were opened in the office of the Constructing Quartermaster at Culebra, on Friday, February 11. Three proposals were received, that of Edmund M. Martin, for $3,390, being the lowest. His bid was accepted, and the papers were signed on February 21, the contractor binding himself to complete the work in 70 days. The award covers the erection of a stable building, a hospital stable, a wagon and cart shed, and a carriage shed.

The Canal Zone Highway.

Two of the three sections necessary to complete the Canal Zone highway from Panama to Gorgona are well under way. The subgrade of the section between Las Cascadas and Gorgona was finished in September, 1909, and crushed rock has since been placed for a distance of about 4,000 feet out of Gorgona. The rock is quarried in the vicinity and crushed in a portable machine. Between Gorgona and Bas Obispo, the road will be surfaced with rock, but between Bas Obispo and Las Cascadas, gravel, obtained from the deposits at Santa Cruz, will be used. Gravel, which has only recently been used in roadmaking in the Zone, is expected to prove a fairly good substitute, and costs about one-quarter as much a cubic yard as broken stone. Municipal prisoners have been employed on the work of metaling the Las Cascadas-Gorgona extension, which, up to now, has been confined to the Gorgona end. Graveling, however, will be started on the Las Cascadas end within a few days, with contract laborers, and it is expected that the entire section will be about completed by the end of the dry season.

The subgrade of the Empire-Paraiso section is finished to within three-quarters of a mile of Paraiso, and will be entirely completed by the end of March. Graveling has been commenced south of the suspension bridge at Empire, and convicts are being used on this work, as well as in the grading operations. This section of the road will follow the east side of Culebra Cut from Paraiso to the Empire suspension bridge, which will be crossed in order to reach the town. Culebra cannot be reached from this road,

NOTES OF PROGRESS.

(*Continued.*)

except by doubling back from Empire on the highway now connecting the two places.

The change in the height of the dump between the south end of the Miraflores tunnel and the Cardenas River, account of the Panama railroad relocation, has held up the roadwork between Corozal and Pedro Miguel, and it is probable that no work will be done in this section until after July 1, 1910. A road was completed some time ago between Pedro Miguel and Paraiso, but the route will have to be changed on account of the relocated line of the railroad. This change will be made by the railroad company.

The status of the work on the Canal Zone highway at the present time, is shown by the following table:

SECTION.	Condition.	Length —Miles.
Panama to Corozal.......	Completed......	3.30
Corozal to Paraiso........	Work temporarily suspended..	5.45
Paraiso to Empire........	Building........	4.82
Empire to Las Cascadas..	Completed......	2.30
Las Cascadas to Gorgona.	Building	4.34
Gatun to Colon...........	Completed......	8.50

The completed section of the road comprises 14.10 miles, and the section under construction, or planned, 14.61 miles.

Concrete Laying at Gatun.

The following amounts of concrete were placed in the Locks and in the Spillway at Gatun in the week ending February 26:

	Cubic Yards.
February 21	2,572
February 22 (Holiday)	
February 23	2,864
February 24	2,707
February 25	2,565
February 26	2,508
Total	13,216
Previously reported.....................	210,815
Grand total...........	224,031

During the week, 2,136 cubic yards of concrete were laid in the Spillway of Gatun Dam.

Concrete Laying at Pedro Miguel.

The record of concrete laid at the Pedro Miguel Locks during the five eight-hour working days of the week ending February 26, follows:

	Cubic Yards.
February 21..............	492
February 23...............................	587
February 24...............................	501
February 25..........	548
February 26............	564
Total..	2,692
Previously reported....................	61,362½
Grand Total..................................	64,054½

Upper Chagres River Gaging Stations.

The flood in the Chagres River of December 26–29 carried away the instrument shelters of the fluviograph stations at Alhajuela and El Vigia, and also destroyed the house occupied by the observer at the latter place. Permanent reconstruction of the shelter at Alhajuela, which has been placed at an elevation eight feet higher than formerly, and the observer's hut at El Vigia, are practically completed. The shelter at El Vigia, when restored, will be a small affair, just large enough to properly house the instruments. The observer's hut at this station is located farther up the bank of the river than formerly, and well above high-water mark. In design it follows the native style, although the material used is much better than the average. The sides are composed of strips cut from the exterior of the jura palm firmly fastened together. The roof is of thatch closely interwoven and tied in place with bejuco, the rope-like vines found on trees in tropical forests. The posts that support the sides and roof are of cacique and guachapali, the former one of the most valuable of Isthmian woods, and both noted for their hardness and durability. The interior of the house is divided between a general living room, and a raised bedroom, enclosed with the same material as the exterior.

Ancon Rock Crushing Operations.

A total of 838 carloads of quarried rock, equivalent to about 10,000 cubic yards, was dumped into the crushers at the Ancon Hill plant during the five working days of the week ending February 26, an average of over 167 carloads a day. The record by days follows:

	Carloads.
February 21	124
February 23.................................	190
February 24.................................	206
February 25................	167
February 26.................................	151
Total..	838

The crushers are not yet operating at their full capacity, but on February 24, during a period of eight hours, the machines disposed of about 2,400 cubic yards of quarried rock. The hopper, through which the quarried rock passes directly into the main crusher, can be fed from both sides, but at present only one carload at a time is dumped. The work of stripping the earth from the face of the hill continues, Decauville cars having been brought into service on some of the higher levels.

Rock Crushed at Porto Bello.

A statement of the amount of rock crushed at Porto Bello, by days, for the week ending February 26 follows:

	Cubic Yards.
February 21	3,015
February 22 (Holiday).................	
February 23	2,710
February 24	2,579
February 25	2,290
February 26	2,956
Total..	13,550

Marking Canal Equipment.

Subsequent to the adoption of the report on the marking of Canal and Panama railroad equipment, the gist of which was published in THE CANAL RECORD of February 23, it was directed that steam shovels be stenciled with the mark prescribed for the divisions to which they are assigned. The mark is a white diamond 12 by 22 inches, in which the initial letter of the division is stenciled.

Repairing a Pump Casing.

The largest piece of repair work done on the Isthmus by the thermit process was completed at Gorgona foundry last week. It consisted of lining and reinforcing the casing of one of the 20-inch centrifugal pumps from a suction dredge at work on the hydraulic fill of Gatun Dam. This casing had been worn through in several places, and over a large part of its circumference, had been abraded to the merest shell. Over 700 pounds of thermit were used on the whole casing, and in one cast, 340 pounds were ignited, this being the largest single cast yet made. The metal, fused by thermit, amalgamates with the metal of the casing, making a surface as even as though it were the original casting. On account of the extra reinforcement given a thin part of the casing, the shell, as repaired, is stronger than it originally was. This is only one of several similar repairs made to centrifugal pump casings.

Death of President Obaldia.

José Domingo de Obaldía, President of the Republic of Panama, died at his residence in the city of Panama on March 1, from an affection of the heart, after an illness of several days. He was born in David, province of Chiriquí, on January 30, 1845. His father was at one time President of Colombia, and his mother was of a distinguished Panamanian family. On completing his education at the Colombian college in Bogotá, he entered the employ of the Panama Railroad Company, and after a short service, went to the United States, where he took a two years' course in a school in New Haven, and learned to speak English. Returning to Panama, he went into the cattle business in Chiriquí, in which he made a small fortune.

In 1900, he was sent to Bogotá to represent Panama in the Colombian Congress, and in 1903, was elected Senator. While in the Senate, he was the only member that voted for the Hay-Herran Treaty, providing for an interoceanic canal. When the Treaty was rejected, he resigned from the Senate, but soon after was appointed Governor of Panama, which office he held at the time of the revolution, in which Panama separated from Colombia, in November, 1903. Under the new Government, he was made second vice-president; later was appointed Minister to Washington, and in 1906, was made first vice-president, serving as head of the Executive Department during the absence in Europe, of the President, Dr. Amador. He was made the Liberal candidate for the presidency in 1908, and was elected in July of that year. He was inaugurated on October 1, 1908.

Mr. Obaldía was twice married, the first time in 1874, to Manuela Jované, by whom he had seven sons, and two years after her death, in 1901, to the sister of his first wife, who survives him, and by whom he had one son.

Dr. Carlos A. Mendoza, second vice-president, took the oath of office as President at 3.40 o'clock on the afternoon of March 1.

Rifle Match at Santa Cruz.

The Canal Zone Rifle Club held a shoot on Sunday, February 27, on the U. S. M. C. rifle range at Santa Cruz. Good scores at 200, 300 and 600 yards were made by the members present. Had the shoot been held under the rules of the National Rifle Association of America, all of the ten members present would have qualified as "Marksmen." Arrangements will be made by the club for members to shoot for the "Marksman," "Sharpshooter" and "Expert" medals, furnished by the N. R. A., on Sunday, May 29.

Sailing of the Cristobal.

The steamship *Cristobal*, now in port, will sail from Pier No. 11, Cristobal, at 3 p. m., on Friday, March 4, 1910.

LOST—At Empire baseball park, or at the Commission clubhouse in Empire, on February 20, a horseshoe pin set with rhinestones. The finder is requested to notify W. M. McCoy, Empire.

INJURED CANAL EMPLOYES.

President Recommends Legislation for their Relief.

President Taft has sent the following message to the Congress:

To the Senate and House of Representatives:

I am transmitting herewith certain papers relative to the cases of Alexander Comba, Pedro Sanchez, John H. Cole and Oscar F. Lackey, who were injured on the Isthmus prior to August 1, 1908, while in the employment of the Isthmian Canal Commission.

Comba's legs were crushed, necessitating amputation, and he was still lying in the hospital nearly two years after the accident. The left arm and right hand except the thumb of Sanchez were amputated because of injuries received in a dynamite explosion. Cole's right hand was cut off while he was at work on a steam shovel crane. Lackey suffered a fracture of the spine which has permanently disqualified him from doing anything but a limited amount of light work.

In these and similar cases of injury received by employes of the Commission prior to August 1, 1908, there is no authority for giving any pecuniary relief either to employes themselves or to their families, except that each employe was entitled to and was granted under his contract of employment thirty days meritorious sick leave with pay.

It needs no argument to establish the obligation which the Government of the United States is under to provide relief for its employes who are permanently disabled or maimed and for the families of those who are thus injured or killed through no fault of their own while employed upon work of such hazardous character as that connected with the construction of the Isthmian Canal. This obligation is recognized by the Act of May 30, 1908, and by section 8 of the Panama Canal bill (H. R., 12316), now pending before the Congress.

There are a number of bills pending before the Congress for the relief of certain employes who were injured prior to August 1, 1908, and among them a bill for the relief of Lackey. It seems right that some general law should be enacted which will enable a reasonable allowance to be made to employes who were permanently disabled or maimed and to the families of those who were killed in accidents occurring prior to that date through no fault of their own.

By the Act approved May 30, 1908, the widow, children or dependent parents of an employe killed in the course of hazardous employment are entitled to receive compensation for a year at the rate the employe was paid at the time of his death, provided a claim is filed with the Secretary of Commerce and Labor within ninety days from the date of death.

The families of employes living in foreign countries, especially the families of Spanish employes, in a number of cases were unable to file a claim within the limited time fixed. The Secretary of Commerce and Labor has therefore been compelled to disapprove a number of claims which show that the claimants were entitled to the benefits of the Act. The time limit for filing such claims should be extended and the Secretary of Commerce and Labor authorized to consider and allow such claims as have heretofore been filed.

I therefore recommend that suitable legislation be enacted authorizing the Secretary of Commerce and Labor to act upon any claims for compensation on account of death which have heretofore been filed under the Act approved May 30, 1908, and that authority be given the President under such restrictions as the Congress may deem advisable to settle all claims on account of the death or permanent disability or maiming of employes of the Isthmian Canal Commission caused by accidents on the Isthmus of Panama prior to August 1, 1908, for which such employes were not responsible.

A draft of a bill, substantially following the Panama Canal bill now pending, which I believe will meet the requirements of the situation, has been prepared by the Secretary of War and is at the disposition of Congress.

WM. H. TAFT.

THE WHITE HOUSE,
February 8, 1910.

Annual Meeting of Red Cross.

The annual meeting of the Canal Zone chapter of the American National Red Cross was held in Ancon Hall on the afternoon of February 27. A special committee on organization made its report and its recommendations were adopted, as follows: (1.) That local or district organizations report directly to the executive committee of the Canal Zone chapter. (2.) That reports be published frequently to inform the members of the disbursement of funds, and other work done. (3.) That the annual meeting of the chapter be held on the first Sunday after the first Monday in November.

The treasurer reported that $937.50 had been expended during the year for the relief of cases in the Canal Zone. The method of extending relief is direct, not more than a few hours being allowed to elapse between the time when the recommendation is received and the disbursing of the money. In some instances proffered aid has been refused, because local friendly societies had anticipated the offer of the Red Cross. There is $2,228.41 in the treasury, and $266 of this sum will be forwarded to the national headquarters, representing 50 per cent of the amount collected from membership dues for the year 1910. There are 438 members.

The following officers were elected for the ensuing year: Lieut.-Col. C. A. Devol, chairman; Lieut.-Col. William L. Sibert, vice-chairman; Miss J. Macklin Beattie, secretary; Lieut.-Col. John L. Phillips, treasurer; executive committee, Lieut.-Col. John L. Phillips, Mrs. Lorin C. Collins, and Mr. R. C. Shady.

In accordance with regulations recently adopted by the central committee at Washington, the name of the Canal Zone organization has been changed from branch to chapter, and the title of the chief officer, from president to chairman.

Canal Zone High School.

The high schools formerly conducted at Culebra, Gatun, and Cristobal were consolidated at the last named place on December 6, 1909, and the 52 pupils now enrolled from various villages along the line of the Canal are carried to and from the school each day on the railroad trains, some of them traveling eighty miles. The number of pupils from each village is—Cristobal, 6; Colon, 5; Gatun, 9; San Pablo, 3; Gorgona, 8; Bas Obispo, 1; Matachin, 1; Las Cascadas, 1; Empire, 5; Culebra, 3; Paraiso, 1; Corozal, 4. Classes are held from 1.25 to 4.15 o'clock in the afternoon, in order that the children may take the noon train to Cristobal and the evening train in returning to their homes along the line.

The school year is divided into two terms of 4½ months each; the course is for four years, and a total of 32 credits, or four each term, is required for graduation. Eight credits are required in Latin, eight in mathematics, 4 in history, 1 in civil government, 3 in physical science, 8 in English, and an optional course in Spanish is open to all pupils. Courses in French and German are offered to such pupils as can carry them in addition to the required work. A standard has been set which, if kept up, will guarantee to the pupils credit for similar work if they wish to enter high, or preparatory schools, in the States, and will enable them to pass the most difficult examinations required for entrance to American colleges or universities. Students are being prepared for the entrance examinations to Harvard and Vassar.

A school association has been formed, and two literary societies have been organized to stimulate interest in literature and general information. Every pupil is a member of one of these societies, and programs are presented fortnightly. An athletic association has been organized by the boys, who have baseball and basketball teams, and once a week, the girl pupils report in the morning, for basketball, calisthenics, and Gilbert grace movements, under the direction of one of the woman teachers. A school paper is to be published each month and a year book will be issued at the end of the second term. An entertainment will be held in the near future in aid of a piano fund.

Results in Athletic Meet.

The results of the athletic contests held at the baseball park in Colon on Washington's Birthday, under the auspices of the Washington Athletic Club, were as follows:

100-yard dash—First, G. C. Hertz, 11 seconds; second, A. C. Harragin; third, J. K. Munroe.

Shot put—First, J. H. Weller, 37 feet 3 inches; second, C. O. Herring; third, C. C. Carey.

Three-legged race—First, F. C. Sommers and J. G. DeCora; second, S. G. Russell and S. S. Baum.

Sack race—First, S. S. Baum; second, A. A. Simka; third, R. E. Chatfield.

High jump—First, G. C. Hertz, 5 feet 8 inches; second, B. E. Culbertson; third, R. H. Barrett and I. R. Lewis (tie).

220-yard dash—First, J. H. Weller, 26 seconds; second, A. C. Harragin; third, D. T. Edwards, jr.

Boys' race—First, K. Levy; second, L. McCart.

One mile relay race—First, Gatun team; second, Gorgona team; third, Culebra team.

Running broad jump—First, E. O. Keator, 20 feet 11½ inches; second, G. C. Hertz; third, W. B. Patton.

440-yard dash—First, D. T. Edwards, jr., 58 3-5 seconds; second, J. H. Weller; third, W. B. Patton.

Pole vault—First, G. C. Hertz, 9 feet; second, J. G. DeCora; third, I. R. Lewis.

One mile run—First, J. A. Simka; 4 minutes 46 1-5 seconds; second, S. Kramer; third, S. G. Russell.

The standing of the various teams participating, according to points, were:

	Points.
Gatun team	31
Washington Athletic Club	21
Gorgona Y. M. C. A.	9
Ancon team	8
Cristobal Y. M. C. A.	8
Indianapolis Marion Club	3
Culebra Y. M. C. A.	1

LOST—In Panama, on the night of February 18, a gold, hunting case, stem winding watch, engraved with the initials "J. H. S," an open face silver watch, and a gold ring initialed "W. H. T." A reward will be paid for the return of any, or all of these articles to William H. Taber, Camp Elliott.

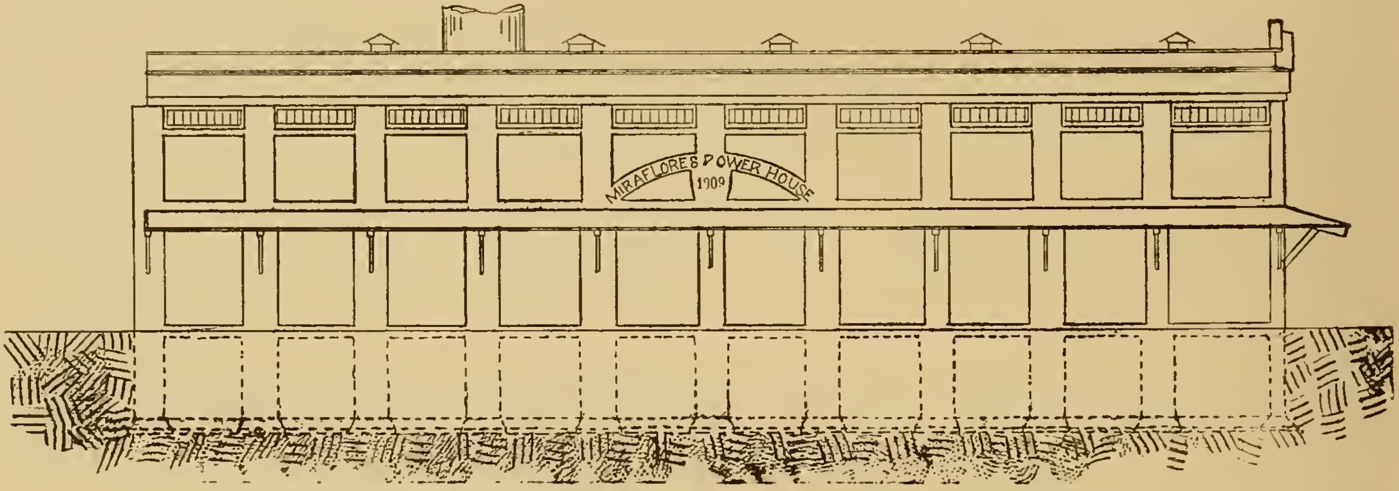
MIRAFLORES POWER PLANT.

Description of the Pacific Division Central Station Building and Equipment.

Excavation and grading for the site of the Miraflores power house, located near the operated line of the Panama railroad, about a quarter of a mile south of Miraflores station, was begun in November, 1908, and continued until March, 1909, when work on the concrete footings was started. The installation of the boiler equipment was begun about June 1, 1909; of the turbines and electrical equipment, about a month later. The electrical installation was completed on February 1, although one turbine has been in operation since November 18.

A description of the plant in detail follows:

Building—The building is 157 feet 6 inches by 76 feet 6 inches, and has a 14-foot basement. The eaves are 39 feet and gable 41 feet from the ground floor, and there is a 3-foot parapet surmounting the outer walls. The entire structure is of reinforced concrete construction, with the exception of one end and the portion of the turbine room floor where the switchboard and rotary converters are installed. On account of proposed changes and probable installation of water turbines after construction of the locks is completed, one end and the floor above referred to, was constructed so as to be easily removed.



FRONT, OR BOILER SIDE, OF THE MIRAFLORES POWER HOUSE.
Dotted lines indicate concrete footings and basement section below the surface of the ground.

An 8-inch center wall running the entire length of the building separates boiler and turbine rooms. At one end of the boiler room is a gallery supporting the stack induced draft equipment and the oil filtering and storage tanks. Surrounding the outer walls of the boiler room, about 17 feet from the floor, is a concrete canopy extending out 11 feet; below this the panels are left open. By this means excellent light and ventilation are secured. The circulating water intake and discharge tunnels are located under the basement floor, and are of reinforced concrete construction also.

Boiler Equipment—The boiler equipment consists of six nominally rated, 400-horse power water tube boilers, manufactured by the Keeler Boiler Company, and arranged in batteries of two. They are equipped with Foster superheaters designed to give superheat of 150 degrees F. Each boiler is guaranteed to evaporate 17,000 pounds of water per hour from a feed water temperature of 210 degrees F., at a pressure of 205 pounds absolute and 150 degrees F., superheat. When operating under these conditions with one ounce induced draft, with a grade of Pocahontas coal having a fuel value of 14,000 B. T. U., per pound, the guaranteed thermal efficiency is 65 per cent. The furnaces are designed for the use of either oil or coal and are equipped with shaking grates and Best Company oil burners.

The induced draft equipment, manufactured by the Sturtevant Company, consists of two 90-inch duplicate fans located in the bottom of a steel stack. One is driven by a vertical cross compound steam engine and the other by a 100-horse power, 220-volt, three-phase induction motor.

The feed water heater, manufactured by the Cochrane Company, is of the open type and is guaranteed to heat 80,000 pounds of water per hour from 100 degrees F., to a temperature of 205 degrees F., when supplied with 80,000 pounds of exhaust steam from non-condensing auxiliaries.

The two feed water pumps, manufactured by the Blake Company, are capable of delivering 200 gallons of water each, per minute, at a temperature of 205 degrees F., against a discharge pressure of 225 pounds, when supplied with steam at 175 pounds gage pressure and superheat of 150 degrees F. These pumps are vertical, single style, and double-acting. A motor driven air compressor supplies air to the pump air chambers and for blowing out machinery. All boiler equipment was furnished by the D'Olier Engineering Company.

Electrical Equipment—The electrical equipment, consisting of three 1500-k. w., 2200-volt, three-phase, 25-cycle turbogenerators, with base condensers, two 35-k. w., 125-volt turboexciters, one 30-k. w., 125-volt induction motor driven exciter, and all switchboards and switching apparatus, also all turbine auxiliaries, was furnished by the General Electric Company.

The turbines are the Curtis vertical type. Their guaranteed steam consumption is 17.6 pounds per k. w. hour, when operating at 100 per cent load, with 150 pounds gage pressure, 140 degrees F., superheat at throttle, 2-inch absolute back pressure and 12-k. w. excitation at 125 volts. The condenser equipment for each turbine, manufactured by the Alberger Company, consists of one 3500 square foot surface condenser, one engine driven centrifugal circulating pump, one dry vacuum pump, and one Hotwell & Hotwell pump. The oil pumps were made by the Dean Pump Company and the oil filters by the Turner Oil Filter Company. All steam driven auxiliaries are designed for 150 degrees F., superheat.

In addition, there will be installed for service during construction of the locks, two 500-k. w., 600-volt, and one 300-k. w., 600-volt rotary converters, manufactured by the General Electric Company. These will be located in the temporary structure portion of the building. The two 500-k. w. rotaries are now located in the sub-station at Pedro Miguel, but these will be installed later in the power plant to furnish power for construction work at Miraflores.

All A. C. switches, generator field switches, turbine governor control switches, and generator field rheostat control switches, are controlled from a 3-section benchboard. On each section of the bench are mounted the following pool button control switches, with indicating lamps:

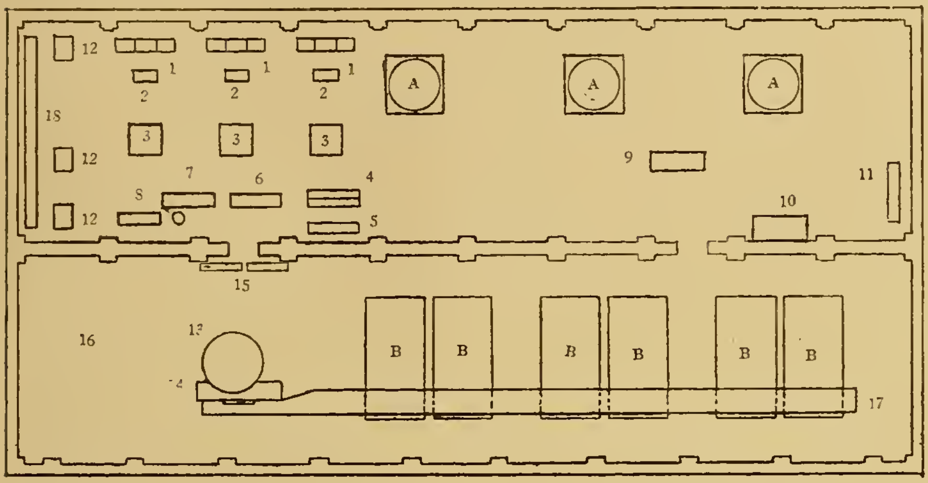
1—Generator switch.
1—Rotary converter switch.
1—Bus tie switch.
4—Outgoing feeder switches.
1—Generator field switch.
1—Turbine governor control switch.
1—Generator field rheostat control switch.

On the upper vertical section of this board are mounted the indicating instruments, and on a 3-panel vertical board in the rear of the benchboard are mounted the recording instruments and time limit relays. The exciter board consists of three exciter panels and two Tirrill regulator panels. The railway, or 600-volt, board, consists of three rotary converter panels and six feeder panels. All panels are black slate. Along the west end of the turbine room are located all the oil switches. These are solenoid operated,

G. E., type K., Form 3. There is also a 300-k. w. rotary converter installed at Balboa to furnish power for the sand unloading cranes.

In the turbine room, a 20-ton overhead electric traveling crane is installed. This crane was manufactured by the Cleveland Crane and Engineering Company.

Overhead 3-phase transmission lines deliver power generated to the concrete handling plants at Pedro Miguel and Miraflores, various electrically driven pumps, the Ancon quarry crusher plant, and the sand unloading cranes at Balboa. The lines to Ancon quarry are approximately 5½ miles in length, and the one to Balboa approximately 4 miles. The plant will have a capacity equivalent to 6,000-horse power.



GROUND FLOOR PLAN OF THE MIRAFLORES POWER HOUSE.

A—Turbogenerators.
B—Boilers.
1—Three sets of transformers, three transformers in each set.
2—Three reactance coils, one to each set of transformers.
3—Three rotary converters.
4—Benchboard.
5—Relay and recording meter board.
6—Exciter board.
7—D. C. feeder board.
8—Air compressor motor, induced draft fan motor and station lighting transformers.
9—Feed pumps.
10—Feed water heater.
11—Motor-driven air compressor.
12—Oil switches, one for each turbogenerator and rotary converter.
13—Stack.
14—Induced draft fans.
15—Oil filter and storage tanks.
16—Machine shop.
17—Breeching connecting boilers to induced fan system.
18—Feeder oil switches.

STEAMBOAT INSPECTION.

Licenses Issued by Local Board—Jurisdiction of the Service.

The Board of Local Inspectors of the steamboat inspection service of the Government of the Canal Zone, appointed by the Chairman and Chief Engineer, under date of November 13, 1909, in accordance with Executive Order No. 1131, consisting of W. G. Comber, chairman; James Macfarlane, and Louis Untermann, held its first examination of masters, mates, engineers and pilots at its office in the old Administration Building, in Panama, on Tuesday, February 8. License No. 3 was given Capt. Ed. F. Graham of the Chilean Line (Compañia Sud Americana) steamship *Aysen*, which is believed to be the first time the United States Government has ever issued a pilot's license to an alien. The sessions are now being held on Wednesdays and Saturdays, and, in view of the fact that there will probably be upward of 250 applicants for licenses, and as only a few of the applicants, who are employes of the Canal Commission, can be allowed absence for this purpose at a time, the examinations, it is expected, will extend over several weeks.

The provisions of the Executive Order as interpreted by the regulations of the local board apply to masters, mates, engineers, and pilots of steam craft, as follows:

Masters of steam launches, meaning any self-propelling steam craft, less than 50 tons burden, and over 15 tons; masters of self-propelling hopper barges of 750 tons gross, or less; masters of tow boats, not exceeding 1,000 tons gross, including in class, self-propelling crane boats; masters of steam vessels plying as passenger boats between Zone ports and adjacent ports in the Republic of Panama, less than 100 tons; masters of ladder, suction and dipper dredges.

Engineers of launches; chief and second engineers of self-propelling barges; chief and second engineers of tow boats; engineers of steam vessels plying as passenger boats between Zone ports and adjacent ports in the Republic of Panama, less than 100 tons; chief, second and third engineers on sea going dredges, and all engineers on ladder, dipper, or suction dredges.

Mates of self-propelling hopper barges of 750 gross tons; mates of tow boats, not exceeding 1,000 gross tons; mates of steam vessels plying as passenger boats between Zone ports and adjacent ports in the Republic of Panama; mates of all kinds of dredges.

Pilots of steam launches; pilots of self-propelling hopper barges; pilots of tow boats; pilots of steam vessels plying as passenger boats between Zone ports and adjacent ports in the Republic of Panama, less than 100 tons; pilots of passenger and cargo steamers of any tonnage.

One of the regulations, under which the board is working, provides that licenses must be taken out by pilots of passenger and cargo steamers of any tonnage, that ply, or may desire to ply in the waters of the Canal Zone. As all vessels sailing from United States and foreign ports to the ports of Ancon, Cristobal, or Colon, must cross the waters of the Zone, the pilots of practically every steam vessel cleared for these ports, come within the provision.

The board has exclusive jurisdiction over all pilots navigating the waters of the Canal Zone, and pilots' licenses, other than those issued by the board, are not recognized. Licenses, however, issued to masters, mates and engineers by the United States steamboat inspection service also hold good here. In case of a collision between vessels, or other accident to steam craft, while plying the waters of the Canal Zone, in which there is ground to believe that the pilot may be at fault, the board has the power to hold an investigation, fix the responsibility, and if the circumstances should warrant, to revoke the pilot's license.

Nearly all the small coastwise steam-propelled craft plying between ports in the Republic of Panama, are of less than 15 tons burden, and as such, are exempt from the above regulations.

Canal Medal List.

Following is a list of changes and corrections in the Canal Medal list as published in THE CANAL RECORD of January 12 and January 26, respectively:

PANAMA RAILROAD EMPLOYES.

Names to be added to medal list:

Mary Reese, Jan. 1, 1907.
W. E. Burkhalter, Mar. 18, 1907.

Names to be omitted from medal list:

Thomas Cope, Feb. 3, 1907.
J. H. Conner (Mr. Conner's name to be placed on the list for service bar), Nov. 19, 1907.

Change in names, medal list:

F. Grunwald, to F. Grunewald.
A. Haag, to H. Arthur Haag.

Names to be added to bar list:

H. W. Brown, bar service Jan. 4, 1905, to Jan. 4, 1909.
J. H. Conner, bar service Nov. 19, 1907, to Nov. 19, 1909.

Names to be omitted from bar list:

Thomas Bowman, bar service Dec. 1, 1905, to Dec. 1, 1909.
J. G. Notte, bar service Dec. 16, 1905, to Dec. 16, 1909. (Appears under date of March 22.)

Change in name, bar list:

M. V. Debardeleben, to M. V. DeBardeleben.

PANAMA RAILROAD RELOCATION EMPLOYES.

Name to be added:

Martin Erickson, Aug. 18, 1907.

PANAMA RAILROAD COMMISSARY EMPLOYES.

Names to be added:

Frederick Meister, July 29, 1907.
William H. Rattiner, Oct. 27, 1907.
Jessie B. Duncan, Dec. 12, 1907.

Change in name:

Carl Weiser, to Carl Yeiser.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, February 26, 1910.

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft..	125	92	45	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Feb. 20.....	126.5	93.9	47.5	4.0	1.5	1.0
Monday, Feb. 21....	126.4	93.9	47.4	4.0	1.4	0.9
Tuesday, Feb. 22...	126.4	93.8	47.3	3.8	1.4	1.0
Wed'esday, Feb. 23	126.7	94.1	47.4	3.8	1.2	0.9
Thursday, Feb. 24..	127.4	94.6	47.9	4.9	1.3	0.9
Friday, Feb. 25.....	127.7	94.7	48.1	5.4	1.7	1.1
Saturday, Feb. 26...	127.4	94.5	48.0	5.4	1.6	1.0

LOST—At 4.55 p. m., on February 22, from train No. 7, in front of Gatun station, one pair of gold mounted eyeglasses. Finder please notify R. V. French, care of Subsistence Department, Cristobal, Canal Zone.

SOCIAL LIFE OF THE ZONE.

Women's Clubs, and Other Features.

A meeting of the executive board of the Canal Zone Federation of Women's Clubs and conference of presidents will be held in the Commission clubhouse at Gorgona on the afternoon of Friday, March 4. The clubwomen will take luncheon at the hotel on arrival of the noon trains from Colon and Panama, and the meeting will convene at 2 o'clock. Arrangements for the annual meeting in April will be made at this time, and other business of importance transacted.

On Friday afternoon, February 24, the Gatun Woman's Club entertained the members of the Sunshine Society, the meeting being held at the home of the chairman of the social committee, Mrs. William L. Sibert. The president of the Canal Zone Federation of Women's Clubs, Mrs. Thomas E. Brown, jr., was present and made an address on the condition and status of the Federation. There was a program consisting of songs by Mrs. G. M. Hoffman, Mrs. Adele Schreiber, and Miss Nellie Keator. Mrs. Stanton and Miss Virginia Chinn were the accompanists. The feature of the afternoon was a musical contest, and refreshments were served by the hostess. The club will hold its monthly business meeting on Friday afternoon, March 4. The discussion will be on civic improvements.

The Gorgona Woman's Club met at the clubhouse on Thursday afternoon, February 24. The business meeting was followed by a drill in parliamentary law conducted by the chairman of the literary committee, Miss Cage. On February 17, the club entertained the members of the Edith Harris-Scott Company. There was a short program and refreshments were served.

The Gatun Club held its first dance on the evening of February 21 in the entertainment hall of the new clubhouse. The hall was decorated with flags and palms. Music was furnished by an orchestra of eight pieces. During the intermission refreshments were served. The next dance of the club will be held on March 26.

The Empire Social Club is arranging for the production of a musical comedy, the rehearsals for which are already in progress. A feature of the entertainment will be the introduction of some of the latest popular American songs.

The annual outing arranged by the engineering department of the Panama railroad was held on Washington's Birthday, when 111 employes of the department made the trip to Taboga in the steam tug *Bolivar*. The party left Colon in special cars at 6.45 a. m., and returned at 6.15 p. m. Luncheon was served on board the boat.

On Washington's Birthday, the Red Men of the Isthmus and the Canal Zone held their annual outing at Colon. A special train was provided, leaving Panama at 8 a. m. The party stopped at Mt. Hope cemetery for the ceremony of laying a corner stone for a monument to be erected in their lot in memory of the members of the order buried there. In the afternoon the athletic events of the day took place at the picnic ground, and in the evening, a dance was held at the Lincoln House, Colon.

The Empire Camera Club holds its weekly meeting at the Commission clubhouse on Wednesday evenings. Two competitions have been instituted as features of the work of the organization—a weekly competition, held at the meetings, when original prints are submitted by members and voted on by those present, and an outing competition, members submitting three prints of photographs taken on any excursion, which are exhibited at the clubhouse and voted on by members of the Young Men's Christian Association. The club has taken up as a special study the making of lantern slides. At a recent smoker, 50 original slides were exhibited. The club aims to arrange for an exhibit of prints in connection with the other camera clubs in the Canal Zone. Fortnightly outings are held, Cruces, the lock site at Gatun, and old Panama having been visited. Additional equipment is being installed in the dark and developing rooms in the clubhouse. The officers of the club are: U. L. Upson, president; Edwin R. Gobrecht, vice-president; H. H. McAnelly, secretary; J. L. Bewick, treasurer.

The Kangaroos of Cristobal Court No. 8 gave an old fashioned social at the I. C. C. Lodge Hall on Friday evening, February 25. An entertaining program was given and refreshments were served. They were about 150 present.

Church Work.

Regular services will be held at Trinity Episcopal church, Culebra, at 11 o'clock, every Sunday morning, and at St. Mary's church, Empire, at 7.45 o'clock, every Sunday night. Services will be held at St. Mary's church, at 7.30 o'clock, each Friday night in Lent. An informal reception in honor of the new chaplain at Culebra and Empire, Rev. Henry A. Brown, U. S. A., was held at the home of Mr. and Mrs. A. S. Zinn, on Empire Hill, on the evening of February 25.

The First Baptist church of Empire will, hereafter, meet at 3 p. m., on the first Sunday in each month, instead of the fourth Sunday, for the transaction of business and observance of the Lord's Supper. The worship in the Commission chapel, the same evening of each month, will be under the auspices of this church, and everybody is invited to assist. On the afternoon of March 6, a ladies' aid society will be organized.

Special services are held in St. Rita's Catholic church at Gatun during Lent, as follows: Sundays, 7.30 p. m., rosary, sermon and benediction; Fridays, 7.30 p. m., "Way of the Cross," sermon and benediction.

During the three months since the organization of the Baptist mission for West Indians in Colon, the membership has greatly increased. Missionary meetings are conducted by Rev. J. H. Sobey on Wednesday evenings.

Children of Kindergarten Age.

Parents having children between the ages of four and six for whom they would like kindergarten privileges after October 1, 1910, will please furnish the Superintendent of Schools, Ancon, C. Z., with the name and exact date of birth of each child.

Personal.

Lieut. R. E. Wood, with Mrs. Wood, left on the *Turrialba* on February 22 for his annual leave in the States.

Woman's Christian Temperance Union.

The Woman's Christian Temperance Union of Empire held a Frances Willard memorial meeting at the chapel on Thursday afternoon, February 17, and at the same time celebrated the first anniversary of the local organization. The Empire Union was organized with 15 members, on March 17, 1909, by the national organizer for the Canal Zone, Mrs. Abbie B. Hillerman. There are at present 19 active and five honorary members. At the close of the meeting, refreshments were served.

At the meeting of the Union on February 24, the following officers were elected: Mrs. J. H. Sobey, president; Mrs. Newton, vice-president; Mrs. Peek, secretary; Mrs. Payne, treasurer. The meetings will be held on the second and fourth Thursdays in the month, as heretofore.

The grading of the West Culebra road has been completed, and no further work will be done on it at the present time.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Empire, C. Z., on Sunday, March 6, 1910, at 6 p. m. The program follows:

1 March—*Chicago Tribune*.............. Chambers
2 Selection—*Prima Donna*..................Herbert
3 Two Step—*Mollie Lee*.......................Morse
4 Overture—*Hungarian Lustspiel*........Keler Bela
5 Paraphrase—*Nearer My God to Thee*......Reeves
6 Intermezzo—*Flower Girl*................Wenrich
7 Medley Selection—*Kerry Mills' Latest Songs*.....................................Schulz

Introducing—"Yes She Did," "Under the Chicken Tree," "I'm Tired of Living Without You," "Take Me Out for a Joy Ride," "Where Were You Last Night," "You'll Have to Ask Mother," "Pass Dat Possum," "When a Pal of Mine Steals a Girl of Mine," "The Longest Way 'Round is the Sweetest Way Home," "Lonesome," "Rag Time Dance," "Don't Be an Old Maid, Molly," "A Georgia Barn Dance," "We're Almost Home" and "Sun Bird."

8 Caprice—*Buttercups and Daisies*.....Van Alstyne
9 March—*Lights Out*.........................McCoy

CHAS. E. JENNINGS, *Musical Director*.

A concert will be given at Hotel Tivoli, Ancon, on Sunday, March 13, at 7.30 p. m.

LAWN TENNIS SCHEDULE.

The schedule of lawn tennis games for the Maduro-Lupi cup, and the championship of Panama and the Canal Zone, is printed below. A tournament committee made up of five members, each representing two clubs, will conduct the tournament, and make reports on the results.

Games at.....	Panama.	Ancon.	Tivoli.	Corozal	Culebra.	Empire	Gorgona.	Camp Elliott.	Cristobal.	Colon.
Panama.......		May 29	Mar. 25	June 12	June 5	Apr. 24	May 22	May 15	Mar. 13	Mar. 13
Ancon........	May 8		Mar. 25	Mar. 27	Mar. 6	Mar. 20	June 19	June 26	Apr. 10	Apr. 10
Tivoli	Feb. 27	June 15		Apr. 17	Apr. 24	June 19	Mar. 13	May 1	May 29	May 29
Corozal.......	June 19	Mar. 13	Apr. 10		June 26	Apr. 3	May 1	May 29	May 15	May 15
Culebra.......	Apr. 3	May 1	Apr. 3	Feb. 27		June 12	May 29	May 22	Mar. 13	Mar. 13
Empire.......	Apr. 10	May 22	June 26	June 5	Apr. 17		May 15	Mar. 13	May 1	May 1
Gorgona......	Mar. 20	Apr. 24	Mar. 20	Mar. 6	May 8	Mar. 25		Apr. 10	Apr. 17	Apr. 17
Camp Elliott..	Mar. 25	June 12	June 12	May 8	Mar. 20	Mar. 27	Feb. 27		Apr. 17	Apr. 17
Cristobal.....	Mar. 27	May 8	May 8	Mar. 20	Mar. 25	Mar. 6	June 5	June 12		Apr. 24
Colon.........	Mar. 6	June 5	June 5	Mar. 25	Mar. 27	May 8	Apr. 3	June 19	Feb. 27	

BASEBALL.

ISTHMIAN LEAGUE.

RESULTS OF GAMES, FEBRUARY 27.

Marines, 5; Ancon, 4.
Empire, 4; Gorgona, 3.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*P.*	*W.*	*L.*	*Pc.*
Empire....	14	10	4	.714	Ancon......	14	6	8	.429
Gorgona...	16	11	5	.687	Marines....	16	3	13	.186

SCHEDULE FOR MARCH 6.

Ancon at Empire.
Marines at Gorgona.

GAMES PLAYED FEBRUARY 22.

Gorgona.	AB.	H.	PO.	A.	E.	Empire.	AB.	H.	PO.	A.	E.
Dougherty, 2b	4	0	1	0	0	Dixon, ss.....	4	0	3	5	0
Magee, lf.....	4	0	1	0	0	S. Fluh'ty, 3b.	4	2	1	1	0
Barney, cf....	4	3	1	0	0	Bell, 1b.......	4	1	12	0	1
Wright, 1b....	4	3	7	0	0	Christopher, p	3	0	0	3	0
Herring, c....	4	1	11	0	0	Moore, c.......	2	0	7	0	0
Cole, ss.......	3	0	0	0	0	E. Fluh'ty, lf..	4	1	3	0	0
Ridge, rf.....	3	0	0	0	1	Markley, 2b..	3	1	1	1	1
Emery, 3b....	2	0	2	4	1	Toone, rf......	3	1	0	0	0
Case, p........	3	0	1	2	1	Murphy, cf...	2	0	0	1	0
*Heltemes....	1	0	0	0	0	Totals.......	29	6	27	11	2
Totals	32	7	24	6	3						

*Batted for Ridge in the 9th.

Gorgona.................. 0 0 0 0 0 0 0 0 2—2
Empire.................. 0 3 0 0 2 0 0 0 x—5

Runs—Gorgona: Barney, Wright; Empire: Dixon, S. Fluharty, Christopher, E. Fluharty, Markley. Runs earned—Gorgona, 1; Empire, 2. Two base hits—Barney, Bell. Three base hit—Wright. Sacrifice hits—Cole, Moore, Murphy. Stolen bases—Herring, S. Fluharty, E. Fluharty, Markley, Toone (2). Bases on balls—Off Christopher, 1; off Case, 1. Struck out—By Christopher, 6; by Case, 10. Hit by pitcher—By Case—Christopher. Left on bases—Gorgona, 5; Empire, 4. Double play—Dixon to Bell. Umpire—Irwin. Time of game—1.40. Scorer—J. B. Burke.

Marines.	AB.	H.	PO.	A.	E.	Ancon.	AB.	H.	PO.	A.	E.
Maguire, 1b..	4	0	8	2	0	Pearman, 3b..	4	1	2	1	0
Lyman, rf....	4	1	1	0	0	Hunter, cf....	4	1	3	0	0
O'Brien, 2b...	4	1	3	1	0	Keller, lf......	4	2	3	0	0
J. Snyder, cf..	3	2	2	0	0	Smith, 1b.....	4	0	10	0	0
Lubomski, lf..	3	2	1	0	0	A. Snyder, 2b.	4	2	0	3	0
Volman, 3b...	3	1	3	3	0	Tinsley, ss....	3	3	2	1	0
Munsen, ss...	4	0	1	0	1	Drennan, rf...	4	1	1	0	0
Conway, c....	4	0	5	0	1	Frampton, c..	4	2	6	2	0
Heinz, p......	3	0	0	4	0	Nygren, p....	3	1	0	5	0
Totals	32	7	24	10	2	Totals.......	34	13	27	12	0

Marines.................. 0 0 0 0 0 0 0 0 0—0
Ancon.................... 0 0 0 1 0 0 4 0 x—5

Runs—Ancon: Pearman, Keller, A. Snyder, Drennan, Frampton. Runs earned—Ancon, 3. Two base hit—Keller. Sacrifice hit—Nygren. Stolen bases—Lubomski, Volman, (2); Pearman, Hunter, A. Snyder (2.) Bases on balls—Off Heinz, 1; off Nygren, 2. Struck out—By Heinz, 4; by Nygren, 5. Hit by pitcher—By Nygren—Snyder. Left on bases—Marines, 8; Ancon, 7. Double plays—Volman to Maguire to Volman; Frampton to Pearman. Umpire—Cooling. Time of game—1.45. Scorer—J. K. Munroe.

GAMES PLAYED FEBRUARY 27.

Empire	AB.	H.	PO.	A.	E	Gorgona.	AB.	H.	PO.	A.	E
Dixon, ss.....	3	2	7	3	0	Dougherty, 2b	4	0	0	5	1
S. Fluh'ty, 3b.	3	0	0	3	0	Magee, lf.....	4	2	1	0	0
Bell, 1b.......	2	0	8	0	0	Barney, ss....	5	0	2	4	1
Christopher, rf	4	1	0	0	0	Wright, 1b....	5	3	14	0	0
Moore, c......	4	0	5	0	0	Herring, c....	5	0	4	2	0
W. Fluh'ty, lf.	4	1	2	0	0	Clements, cf..	3	2	2	0	0
Markley, 2b..	3	0	3	3	1	Emery, 3b....	3	1	1	2	1
Murphy, cf...	2	0	2	0	0	Case, rf.......	4	0	3	1	0
Toone, cf......	2	0	0	0	0	Massen, p....	3	1	0	1	1
Marshall, p...	3	0	0	2	1	Totals.......	36	9	27	15	4
Totals	30	4	27	11	2						

Empire.................. 0 0 0 0 0 4 0 0 0—4
Gorgona................. 0 0 0 0 0 3 0 0 0—3

Runs—Empire: Dixon, S. Fluharty, Bell, Moore; Gorgona: Magee, Herring, Clements. Run earned—Empire, 1. Two base hits—Magee, Christopher. Sacrifice hits—S. Fluharty, Markley. Stolen bases—Magee, Clements, S. Fluharty, Moore (2), W. Fluharty. Bases on balls—Off Marshall, 5; off Massen, 2. Struck out—By Marshall, 4; by Massen, 4. Hit by pitcher—By Massen—Bell. Left on bases—Gorgona, 11; Empire, 4. Double plays—Dixon to Bell (2); Case to Wright. Passed ball—Moore. Umpire—Irwin. Time of game—1.55. Scorer—D. G. Hayes.

Marines.	AB.	H.	PO.	A.	E	Ancon.	AB.	H.	PO.	A.	E
Maguire, 1b..	3	1	9	0	1	Smith, 1b.....	4	0	11	0	0
Scarff, ss......	3	0	4	3	2	Hunter, cf....	4	0	0	0	0
O'Brien, 2b...	4	2	2	1	2	Keller, lf......	4	0	2	1	0
J. Snyder, cf..	4	4	3	0	0	Pearman, 3b..	4	1	1	3	0
Lubomski, lf.	4	0	1	0	0	Drennan, rf..	2	1	0	0	0
Lyman, rf....	4	1	1	0	0	A. Snyder, 2b.	4	2	1	2	1
Munsen, p....	4	0	0	3	0	Tinsley, ss....	4	0	3	1	0
Conway, c....	4	0	5	2	0	Frampton, c..	3	1	9	0	1
Volman, 3b...	3	0	2	2	0	Nygren, p....	2	0	0	6	0
Total........	33	8	27	11	5	Totals.......	31	5	27	13	2

Marines.................. 0 0 0 3 0 2 0 0 0—5
Ancon.................... 0 2 0 0 0 1 0 0 1—4

Runs—Marines: Maguire; O'Brien (2), J. Snyder (2); Ancon: Keller (2), Drennan, Snyder. Runs earned—Marines, 2. Two base hits—J. Snyder, 2. Home run—J. Snyder Sacrifice hit—Nygren. Stolen bases—Keller (4), Drennan, A. G. Snyder, Frampton. Bases on balls—Off Munsen, 2; off Nygren, 2. Struck out—By Munsen, 3; by Nygren, 9. Left on bases, Marines, 3; Ancon, 3. Double plays—Pearman to Tinsley to Smith; Keller to Snyder; Scarff to Maguire. Umpire—Bain. Time of game—1.45. Scorer J. K. Munroe.

ATLANTIC LEAGUE.

RESULTS OF GAMES, FEBRUARY 27.

Panama Railroad, 3; Colon, 1.
Panama Railroad, 9; Colon, 5.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*P.*	*W.*	*L.*	*Pc.*
Com-Sub...	7	6	1	.857	Civ. Adm..	6	2	4	.333
P. R. R....	7	4	3	.571	Colon......	6	1	5	.166

SCHEDULE FOR MARCH 5.

Civil Administration vs. Panama Railroad.
Commissary-Subsistence vs. Colon.

GAME PLAYED FEBRUARY 22.

P. R. R.	AB.	H.	PO.	A.	E.	C.-S.	AB.	H.	PO.	A.	E
Bryan, lf......	5	2	2	0	0	Smith, 3b.....	5	2	1	3	2
McGinniss, cf	4	2	4	1	0	McCormick, lf	4	2	0	0	0
Bradley, 2b, rf.	3	1	1	0	0	Coffin, lf, cf..	1	0	1	0	1
Whyte, rf c...	4	0	1	1	0	Payne, 1b.....	5	0	9	0	1
Lewis, c, ss...	4	0	5	2	2	Curtis, ss.....	5	1	3	3	1
Woods, 1b....	4	0	8	0	0	Muggleton, 2b	5	2	0	1	2
Fitzpatrick, p.	4	0	1	2	0	Lindberg, cf, lf	5	3	0	0	0
Wheeler, 3b...	2	1	3	4	3	Beard, rf......	4	0	0	0	0
Dockery, ss, 2b	3	0	2	1	2	McCusty, c....	4	2	13	3	1
						Simmons, p..	4	1	0	4	0
Total........	33	6	27	11	7	Totals.......	42	13	27	14	8

Panama Railroad....... 0 2 0 0 2 1 0 0 1— 6
Com.-Subsistence...... 3 2 2 3 0 0 0 0 0—10

Runs—P. R. R.: Bryan (2); Whyte, Woods (2); Dockery; C.-S.: Smith, Payne, Curtis (2); Muggleton (2); Lindberg (2); McCusty (2.) Runs earned—C.-S. 4. Passed balls—Lewis, McCusty. First base on errors—C.-S., 4; P. R. R., 6. Sacrifice hits—McGinniss, Wheeler. Sacrifice fly—Beard. Stolen bases—Woods, Wheeler, Smith, Curtis, Lindberg. Bases on balls—Off Simmons, 5; off Fitzpatrick, 1. Struck out—By Simmons, 11; by Fitzpatrick, 3. Hit by pitcher—Bradley. Left on bases—C.-S., 8; P. R. R., 7. Double play—Simmons to Curtis to Payne. Umpire—Rohr. Time of game—1.40. Scorer—Rennard.

GAMES PLAYED FEBRUARY 27.

P. R. R.	AB.	H.	PO.	A.	E.	Colon.	AB.	H.	PO.	A.	E
Wheeler, 3b, ss	3	0	1	1	0	Odea, 2b......	3	0	0	1	0
Bryan, lf......	2	0	3	0	0	Morton, ss....	4	1	2	0	1
Fluharty rf...	4	2	1	0	0	Kenney, c....	4	2	9	1	0
McGinniss, cf.	4	1	7	1	0	Bailey, p......	3	0	0	3	1
Lewis, ss, 3b..	3	0	0	2	2	Calvert, lf....	4	0	2	0	0
Heberling, 1b.	3	0	3	0	1	Hope, cf......	3	0	0	0	0
Bradley, 2b...	2	0	2	1	1	Weber, 3b.....	3	1	1	0	0
White c.......	2	0	4	0	1	Souders, rf....	3	1	0	0	0
Fitzpatrick, p.	2	0	0	0	0	Stevens, 1b...	3	1	7	0	0
Totals	25	3	21	5	5	Totals.......	30	6	21	5	2

Panama Railroad.............. 1 0 0 0 2 0 0—3
Colon........................ 0 1 0 0 0 0 0—1

Runs—P. R. R.: Wheeler, White, Fitzpatrick; Colon: Stevens. Two base hits—Souders, Fluharty. First base on errors—Colon, 4, P. R. R., 2. Passed ball—White. Stolen bases—Odea (2), Morton, Kenney, Stevens, Wheeler. Bases on balls—Off Bailey, 5; off Fitzpatrick, 2. Struck out—By Bailey, 9; by Fitzpatrick, 3. Hit by pitcher—Fitzpatrick. Left on bases—Colon, 10; P. R. R., 7. Balks—Bailey, Fitzpatrick. Umpire—Rohr. Time of game—1.30. Scorer—Rennard.

Colon.	AB.	H.	PO.	A.	E.	P. R. R.	AB.	H	PO.	A.	E
Odea, 2b......	4	0	2	2	0	Wheeler, ss...	4	2	0	3	1
Morton, ss....	3	1	0	2	0	Bryan, lf......	3	1	0	0	0
Kenney, c....	4	2	5	2	1	Fluharty, rf..	4	1	1	0	0
Bailey, cf.....	1	0	0	0	0	McGinniss, cf.	2	0	1	0	0
Hope, cf......	2	1	0	0	0	Lewis, c......	0	0	6	3	0
Calvert, lf....	3	1	2	0	0	Heberling, 1b.	3	0	11	0	1
Weber, 3b....	3	0	0	4	1	Bradley, 2b...	3	1	1	0	0
Cram, p	2	1	0	3	1	Dockery, 3b..	2	1	0	1	0
Souders, rf....	2	0	0	0	0	Woods, p.....	2	0	1	2	0
Stevens, 1b...	3	0	9	0	1	Totals.......	23	6	21	9	2
Totals	27	6	18	13	4						

Colon......................... 0 0 0 1 0 4 0—5
Panama Railroad.............. 2 1 0 0 0 6 x—9

Runs—Colon: Morton, Kenney (2), Calvert, Weber; P. R. R.: Wheeler (2), Bryan, McGinniss, Lewis, Heberling, Dockery (2), Woods. Runs earned—Colon, 3. Three base hit—Hope. Sacrifice hits—Souders, Lewis. First base on errors—Colon, 2; P. R. R., 3. Stolen bases—Dockery (3), Wheeler, Bryan, McGinniss, Lewis, Woods, Kenney, Morton. Bases on balls—Off Woods, 2; off Cram, 4. Struck out—By Woods, 5; by Cram, 2. Hit by pitcher—Dockery, Woods. Left on bases—Colon, 4; P. R. R., 4. Double play—Weber to Odea to Stevens. Umpire—Rohr. Time of game—1.25. Scorer—Rennard.

Sale of Unclaimed Shipments.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT.
COLON, R. P., February 5, 1910.

In order to recover freight and storage charges, the Panama railroad will dispose of the accumulation of over and unclaimed shipments now in its possession, by public auction, Tuesday, March 8, 1910, at 9 a. m., sale to be held on Dock 11, Cristobal, C. Z.

The items to be sold consist of a miscellaneous assortment of wines, liquors, household goods, building material, stationery, groceries, dry goods, machinery and merchandise in general, all of which has been held six months and over in an effort to locate owner.

J. A. SMITH,
General Superintendent.

OFFICIAL CIRCULARS.

Invoices Between Divisions.

CULEBRA, C. Z., February 24, 1910.

CIRCULAR NO. 308:

In order to include in each month's cost accounts, so far as practicable, all items pertaining thereto, and to avoid unnecessary correspondence, invoices between departments and divisions of the Isthmian Canal Commission will, hereafter, be accepted as rendered. If any corrections are found necessary they will be made on subsequent invoices.

When exceptions are taken that are not concurred in by the department or division submitting the invoice, and agreement cannot be quickly reached, all papers will at once be submitted to this office for decision.

The above procedure applies, also, to all outstanding unaccepted invoices between departments and divisions of the Isthmian Canal Commission at the present time.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Clearance Necessary for Reemployment.

CULEBRA, C. Z., February 26, 1910.

CIRCULAR NO. 309:

It is directed that no person, formerly employed by the Isthmian Canal Commission or by the Panama Railroad Company on the gold roll, be reemployed in any division or department of the Isthmian Canal Commission or the Panama Railroad Company unless he can exhibit a statement of his record, issued to him by competent authority, covering the entire period of his previous service.

If the interests of the service require that a man be put to work without the delay incident to the issue of a written statement of his record, he may be employed after it has been ascertained by telephone from this office, or from the office of the General Superintendent of the Panama Railroad Company, that there are no objections to his reemployment.

GEO. W. GOETHALS, *Chairman.*

Coal for Canal Work.

CULEBRA, C. Z., February 26, 1910.

CIRCULAR NO. 310:

Effective March 1, 1910, all coal purchased by the Commission from the Panama Railroad Company will be purchased by the Quartermaster's Department, the weights to be certified by the Quartermaster's weighmaster and accepted as final by all departments and divisions concerned, including the Panama Railroad Company.

One bill for all coal sold to the Commission will be rendered by the Panama Railroad Company to the Depot Quartermaster monthly, this coal to be invoiced to the various departments and divisions the same as any other Quartermaster's supplies.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission,
President, Panama Railroad Company.

Rainfall, February 1 to 26, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Chepo	.66	8	*1.38
Ancon	.13	11	.43
Balboa	.19	7	.46
Miraflores	1.08	17	2.02
Pedro Miguel	.23	7	.50
Rio Grande	.36	8	1.00
Central Section—			
Culebra	.42	7	.91
Camacho	.60	8	1.39
Empire	.32	8	.73
Gamboa	.80	8	1.73
Alhajuela	1.35	8	2.55
El Vigia	1.77	8	2.41
San Pablo	.77	8	1.87
Tabernilla	.93	8	2.19
Bohio	3.51	7	6.72
Trinidad	4.22	8	*5.51
Monte Lirio	6.76	8	*8.39
Atlantic Section—			
Gatun	.81	3	2.96
Brazos Brook	97	8	2.90
Cristobal	1.01	3	3.25
Porto Bello	2.46	7	†4.68
Nombre de Dios	1.82	8	4.25
Bocas del Toro	1.63	10	*4.07

* To 19th inclusive.
† To 12th inclusive.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

EMPIRE.

On Wednesday night, February 23, the Central Division office duck pin team defeated the Examiner-Disbursing office team two out of three games in the city league tournament, now in progress. The scores were as follows: Central Division office, 480, 417, 417. Examiner-Disbursing office, 392, 418, 415.

On Friday, February 25, the machine shop duck pin team won from the Civil Administration team with the following scores: Machine Shop, 440, 418, 447. Civil Administration, 414, 430, 435.

The standing of the teams in the duck pin league, at present, is as follows:

	Played.	*Won.*	*Lost.*
Machine Shop	9	8	1
Central Division	9	4	5
Civil Administration	6	2	4
Examiner-Disbursing Office	6	1	5

Entry blanks are ready for the Isthmian duck pin championship tournament, singles and doubles, to be held at Empire, beginning Saturday night, March 5. Entries must be in by March 3, at 10 p. m.

A new Isthmian duck pin record was established by W. A. Fishbaugh of the Empire association on February 22, when he rolled a score of 142 with a 4½-inch ball.

The biweekly outing competition of the Camera Club—a trip to Cruces, resulted as follows: First prize, U. L. Upson, Jr.; honorable mention, H. H. McAnelly. The subject of the weekly print competition was "Sunsets," the print selected being the work of Mr. U. L. Upson. The subject of the next print competition on March 2, is "Native Life," illustrating some feature of the mode of living peculiar to the natives of Panama.

On Sunday evening, March 6, at 8 o'clock, Mr. Charles R. Drum will lecture on "An Honest Man," at the Empire clubhouse. A cordial invitation is extended to all the men of Empire, Las Cascadas and vicinity. A meeting for women will be held at 4 o'clock of the same day, at which time, Mr. Drum will speak on "That Boy."

An advanced class in Spanish has been organized and the first regular session will be held at 8.15 p.m., Friday, March 4, immediately following the beginners' class.

GORGONA.

On Wednesday night, February 23, Mr. Charles R. Drum held a conference with a number of men interested in Bible study. Special committees were appointed, with Mr. H. A. Otis, as chairman, to choose a course to be followed. Sunday afternoon, Mr. Drum addressed a woman's meeting, taking for his subject, "That Boy." On Saturday night, he delivered his address, "An Honest Man" before a large audience of men. He will give an address to men on "What About the Girl?" on Friday night, March 4, at 8 o'clock.

On Monday night, March 7, there will be a Bible study rally. All interested in the study of the Bible are requested to be present at 8 o'clock. Refreshments will be served.

The indoor baseball game between Cristobal and Gorgona, played last Saturday night, resulted in a score of 26 to 20 in favor of Cristobal.

GATUN.

The Commission clubhouse at Gatun will be opened Saturday evening, March 5. Invitations to attend the various exercises have been sent to the members of the Y. M. C. A. in the Canal Zone, as well as to the people of Gatun. All details for the programs for the several evenings have not yet been arranged, but the calendar for the celebration will be as follows:

Saturday night, March 5, at 8 o'clock—Official opening, Col. Wm. L. Sibert, presiding.

Sunday night, March 6, at 8 o'clock—Religious exercises, Mr. F. C. Freeman, General Secretary of the Y. M. C. A., presiding.

Monday night, March 7, at 8 o'clock—Opening of the gymnasium, which will include a gymnasium exhibition by Mr. W. H. Warr, Physical Director, in charge, and an indoor baseball game between Culebra and Gatun.

Tuesday, March 8, at 3 o'clock—Ladies' reception, Mrs. Wm. L. Sibert, receiving.

Thursday night, March 10, at 8 o'clock—Pool, billiard and bowling tournaments, with teams from Culebra, Empire, Gorgona, Cristobal and Gatun.

Friday night, March 11, at 8 o'clock—Gymnasium games, including a juvenile contest and a basketball game between Cristobal and Gatun.

Saturday night, March 12, at 8 o'clock—Musical and literary entertainment.

It is expected that special trains will run both ways on the opening night, Saturday, March 5.

CRISTOBAL.

The "Knutt-Splitters" defeated the "All-Stars" at basketball by a score of 22 to 12, Wednesday evening, February 23. The "Knutt-Splitters" won from the "Swastika Five" by a score of 24 to 12, on Friday evening, February 25.

A Y. M. C. A. quartet has been formed and will be one of the features of the social life of the Cristobal association. The quartet is as follows: Baritone, Mr. Ragerty; first tenor, Mr. Glick; second tenor, Mr. Dayton; basso, Mr. Pack. Plans are being made for a minstrel show.

On Tuesday evening of this week, an illustrated lecture on Paris was given by Mr Basil Burwell.

A Spanish class has been organized and meets each Wednesday evening. Miss Odina Frost is teacher.

A course of ten lectures on Isthmian history will be given at the Y. M. C. A. by Prof. Carr, one each week, beginning on Thursday evening, March 3. The lectures are open to members and their friends.

Commissary Notice.

The Commissary price list published in THE CANAL RECORD of February 23 remains unchanged.

Supplies for Canal Work.

The following steamers arrived at the ports of Cristobal, and Colon during the week ending February 26, 1910, with supplies for the Isthmian Canal Commission:

Prinz August Wilhelm, February 21, from New York, with 42 packages (6 tons) pipe-fittings, etc. for stock.

Cristobal, February 22, from New York, with 26,400 barrels cement for Atlantic Division; 48,000 bags cement for Pacific Division; 24 tons W. S. pipe for stock.

Abangarez, February 24, from New Orleans, with 300 gallons gas engine oil, 1,000 gallons dynamo oil, 30,476 feet yellow pine lumber, 2,818 cross-ties, 13 reels wire rope, and 15 hand cars for stock; 111,127 feet yellow pine lumber for Pacific Division; 72,433 feet yellow pine lumber for Atlantic Division; 9,709 feet white oak lumber for car repairs; 2 steam shovel dippers for Central Division.

Advance, February 24, from New York, with 112 packages drugs, etc. for Sanitary Department; 25 headlights, 2 tons sheet brass, 8 tons steel bars, 4 tons wire nails, 246,000 feet triple tape fuse, 12 tons pipe-fittings, 37 tons bolts and nuts, 42 tons W. I. pipe, 1,000 picks, 600 claw bars, 1½ tons zinc, 12 tons babbitt metal, and 11,000 electric fuses for stock; 132,000 feet triple tape fuse, 64 dipper tooth points, and 3 dredging sleeves for Atlantic Division; and a miscellaneous cargo aggregating 1,424 packages, weighing 196 tons.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending March 9, 1910 (75th meridian time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	A. M.	P. M.	P. M.
March 3	....	2.17	8.05	2.24	8.20
March 4	....	3.00	8.46	3.07	9.05
March 5	....	3.55	9.42	4.08	10.06
March 6	....	5.01	10.57	5.30	11.26
			P. M.		
March 7	....	6.13	12.20	6.45	....
March 8	12.47	7.18	1.30	7.47	....
March 9	1.51	8.14	2.26	8.40	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Proposals for Furnishing Plantain and Banana Plants.

Sealed proposals will be received at the office of the Depot Quartermaster, Mount Hope, C. Z., until 3 o'clock p. m., March 10, 1910, for the furnishing of 300 standard banana plants and 300 standard plantain plants. Samples of plants for sale must be submitted. Proposals should show the unit price per hundred, or dozen, and should be addressed to the Purchasing Agent on the Isthmus, Mount Hope, C. Z., plainly marked "Proposals for furnishing banana and plantain plants, to be opened March 10, 1910." At the time and place above specified the bids will be opened in the presence of attending bidders. The Government reserves the right to reject any or all bids.

C. NIXON,
Purchasing Agent on the Isthmus.

LOST—From special train, night of February 19, a suit case marked "C. T. L." containing clothing, meal book, commissary book, 24-trip ticket, all in favor of C. T. Lindsay. Any information regarding the same will be appreciated. Address C. T. Lindsay, care of Quartermaster's Department store, Gatun.

LOST—Between Empire and Culebra, on the noon train, on Wednesday, February 16, a small parcel containing a hand embroidered shirt waist, gold thimble, embroidery scissors, etc. Name engraved on thimble. Finder please return to the ticket agent at Empire and receive reward.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Allianca	P. R. R.	Tuesday	Mar. 1
Colon	P. R. R.	Monday	Mar. 7
Advance	P. R. R.	Saturday	Mar. 12
Panama	P. R. R.	Friday	Mar. 18
Allianca	P. R. R.	Thursday	Mar. 24
Colon	P. R. R.	Thursday	Mar. 31

CRISTOBAL TO NEW YORK.

Cristobal	P. R. R.	Friday	Mar. 4
Panama	P. R. R.	Monday	Mar. 7
Allianca	P. R. R.	Sunday	Mar. 13
Colon	P. R. R.	Saturday	Mar. 19
Advance	P. R. R.	Friday	Mar. 25
Panama	P. R. R.	Thursday	Mar. 31
Allianca	P. R. R.	Wednesday	Apr. 6
Colon	P. R. R.	Tuesday	Apr. 12

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

NEW YORK TO COLON.

Metapan	U. F. C.	Thursday	Feb. 24
Prinz Joachim	H.-A.	Saturday	Feb. 26
Zacapa	U. F. C.	Thursday	Mar. 3
Tagus	R.-M.	Saturday	Mar. 5
Almirante	U. F. C.	Thursday	Mar. 10
Prinz Aug. Wilhelm	H.-A.	Saturday	Mar. 12
Santa Marta	U. F. C.	Thursday	Mar. 17
Oruba	R.-M.	Saturday	Mar. 19
Metapan	U. F. C.	Thursday	Mar. 24
Prinz Joachim	H.-A.	Saturday	Mar. 26
Zacapa	U. F. C.	Thursday	Mar. 31
Magdalena	R.-M.	Saturday	Apr. 2
Prinz Aug. Wilhelm	H.-A.	Saturday	Apr. 9
Clyde	R.-M.	Saturday	Apr. 16
Prinz Joachim	H.-A.	Saturday	Apr. 23
Atrato	R.-M.	Saturday	Apr. 30

COLON TO NEW YORK.

Metapan	U. F. C.	Sunday	Mar. 6
Oruba	R.-M.	Wednesday	Mar. 9
Zacapa	U. F. C.	Sunday	Mar. 13
Prinz Joachim	H.-A.	Tuesday	Mar. 15
Almirante	U. F. C.	Sunday	Mar. 20
Magdalena	R.-M.	Wednesday	Mar. 23
Santa Marta	U. F. C.	Sunday	Mar. 27
Prinz Aug. Wilhelm	H.-A.	Tuesday	Mar. 29
Metapan	U. F. C.	Sunday	Apr. 3
Clyde	R.-M.	Wednesday	Apr. 6
Zacapa	U. F. C.	Sunday	Apr. 10
Prinz Joachim	H.-A.	Tuesday	Apr. 12
Thames	R.-M.	Wednesday	Apr. 20
Prinz Aug. Wilhelm	H.-A.	Tuesday	Apr. 26
Prinz Joachim	H.-A.	Tuesday	May 10

NEW ORLEANS TO COLON.

Atenas	U. F. C.	Saturday	Feb. 26
Turrialba	U. F. C.	Saturday	Mar. 5
Abangarez	U. F. C.	Saturday	Mar. 12

COLON TO NEW ORLEANS.

Atenas	U. F. C.	Tuesday	Mar. 8
Turrialba	U F. C.	Tuesday	Mar. 15
Abangarez	U. F. C.	Tuesday	Mar. 22

COLON TO BARBADOS, CALLING AT TRINIDAD.

Tagus	R.-M.	Tuesday	Mar. 15
Oruba	R.-M.	Tuesday	Mar. 29

The next sailings of the Leyland Line will be as follows: *Alexandrian* for Tamoa, via Kingston, Ja., on or about March 7; *Colonian* for New Orleans, via Kingston, Ja., on or about March 18.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The following vessels arrived at, or departed from the port of Balboa during the week ending February 26:

Arrivals—February 19, *Arica*, from Guayaquil; February 20, *Trinculo*, from Port Harford; February 21, *Peru*, from south ports; *San Juan*, from San Francisco; February 24, *Manavi*, from intermediate ports.

Departures—February 19, *Peclan*, to Port Harford; February 22, *Acapulca*, to San Francisco; *Chile*, to south ports; *Ucayale*, to south ports.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, MARCH 9, 1910. No. 28.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications

THE CANAL RECORD

Ancon, Canal Zone,

Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Excavation Record in Culebra Cut.

More material was dug out of Culebra Cut during February than in any other February since the Canal work was begun. A comparison follows:

1905	75,200
1906	168,410
1907	639,112
1908	1,248,265
1909	1,215,648
1910	1,259,413

The daily average of excavation in February was 54,757 cubic yards, which is the highest daily average for this month. The average per steam shovel was also the highest of record, and the daily average of 2,203 cubic yards, made by shovel No. 214, is the best yet made.

The excavation by districts and quality of material was as follows:

District.	Cubic Yards.		
	Earth.	Rock.	Total.
Bas Obispo	9,371	142,335	151,706
Empire	74,222	456,795	541,017
Culebra	54,352	512,098	566,450
La Pita slide	240	....	240
Total	138,185	1,121,228	1,259,413

Balboa Harbor Plans.

The plans of the proposed inner harbor at Balboa, described in THE CANAL RECORD of January 12, 1910, have been modified by the extension of the northerly limit of the basin, which will increase its size nearly 70 acres, making the total area approximately 246 acres. It is expected that this enlargement will provide for all probable growth in the maritime commerce at this point for many years to come. The change will involve an increase in the dredging estimate, and also, the removal of an additional number of half submerged hulks, the accumulation amounting to a veritable graveyard of old French floating equipment, a short distance up the Corundú River from its junction with the Rio Grande. The work of removing the sunken wrecks from within the limits of the harbor as originally planned is advancing steadily, and the vicinity of the point of land, opposite the shipways, has been entirely cleared of them. The force employed on this work is now engaged in raising several old French barges sunk a short distance up the Rio Grande. The hulks are all towed to a point west of the Canal entrance, where there is a firm sea floor on which they can rest. Here, if it is desired, they can be readily dismantled and converted into scrap for shipment.

New Village of Frijoles.

A town site has been laid out on the relocation of the Panama railroad, opposite Frijoles, at the point where the old and new lines of the railroad now join, and the leasing of lots will be begun within a few days. Between 120 and 150 lots will be leased. The new town will be called Frijoles. It is the first town to be laid out to take the place of a village that will be covered by Gatun Lake.

Cement Deliveries.

Concrete laying at Gatun Locks, and in the Spillway of Gatun Dam, requires 3,300 barrels of cement daily, in order to permit the mixing plants to run at their present rate. It is estimated that 1,500 barrels of cement daily will be required in the concrete work at Pedro Miguel Locks by April 15, and that 3,000 barrels a day will be required after May 15. During the present month, the steamers *Ancon* and *Cristobal* will bring 50,000 barrels each to the Isthmus, and 10,000 barrels will be delivered by other Panama railroad vessels.

At present, the cement ships *Ancon* and *Cristobal* can make only one round trip voyage a month between New York and the Isthmus, due in part to the time required in loading and unloading cargo at the termini. In order to shorten the time required at Cristobal, mechanical cement unloaders were contracted for. A committee, appointed to suggest means for putting the unloaders in operating condition at the earliest possible moment, conducted a test on March 1 of one of the barrel unloaders erected on Dock 11. The test was made on the cargo of the *Cristobat*, and a few changes will be necessary in the apparatus before it can do the work satisfactorily. These changes are being made, and another test will be made on the cargo of the *Ancon*, when the boat arrives.

Finishing the Canal at Santa Cruz.

Three steam shovels are excavating at Santa Cruz, the peninsula in the Chagres River, near Bas Obispo, on which work was suspended early in the the rainy season of 1909. High water in the Chagres put the shovels out of service early in February, and to avoid further delay in case of freshet, a dike of earth will be thrown up to elevation 65 feet above sea level, about twenty feet above low water in the river. At present the shovels are taking out gravel and silt, deposited in the prism of the Canal when the river flowed through the channel during the freshets of the last wet season, and the material is used for ballast on Central Division railroads and roads. The rock excavation was practically completed last year, and there remains principally earth excavation. Another steam shovel will be set at work shortly, and it is expected that this part of the Canal will be finished before the wet season freshets interfere with excavation.

Cargo Handling at Pacific Entrance.

A committee has been appointed to consider means of facilitating the handling of cargo at Balboa, the port at the Pacific entrance to the Canal. Not only has the amount of business handled at this port greatly increased but the need for using the cranes constantly has been so great that it is several years since some of them have been given an extensive overhauling, while others have not been thoroughly repaired in over nine years, and therefore cannot work at their rated capacity.

New Equipment.

A contract has been entered into for two 25-ton wrecking and coaling cranes for the Canal work. One of the cranes is to be delivered before March 30, and the other before May 4.

The contract that has been closed for 300 air-dump steel cars of 19-cubic yards capacity, calls for the delivery of 50 on, or before, May 8, and fifty additional cars on June 7, June 22, July 7, July 22, and August 6. The cars will probably be erected at the Panama railroad shops in Cristobal.

Gatun Water System.

Work on the building, which will house the pumping machinery and motor equipment for use in connection with the new water system at Gatun, has been started. It will be constructed entirely of reinforced concrete, including the roof, and will be 53 feet long, 19 feet wide, with walls 18 feet in height at the eaves. The site is about 600 feet due west of the new Agua Clara dam and reservoir.

The pumping machinery will consist of two three-stage turbine pumps, each arranged for direct connection to an induction motor. Each pump will have a capacity of 1,400 gallons of water a minute against a total friction and gravity head of 300 feet, and a vertical suction lift of 12 feet. The suction pipe will be 14 inches, and the delivery pipe 12 inches, in diameter. The motive equipment will consist of two 1,500 r.p.m., 175 h.p. induction motors, arranged for automatic control, operated on a three-phase, 440-volt, 25-cycle current, which will

NOTES OF PROGRESS.

(Continued.)

be furnished from the Gatun power house, both pumps and motors to be placed on a cast iron bed-plate. In addition, there will be a combination three-panel switchboard, as a part of the electrical equipment, and a hand operated crane, having a capacity of five tons, for moving material inside the building. The plant will probably be completed by the end of March.

Construction of the dam is proceeding steadily. It will have an extreme width at the base of 307 feet, and has been completed to an average elevation of 53 feet. It slopes at the ratio of 3½ feet in one on the upstream, or impermeable clay side, and at the ratio of one and one-half feet in one, on the rock, or downstream toe. The clay for the impermeable fill has been procured from the vicinity of the dam and is now excavated by steam shovel and hauled to the site by dump cars, teams and scrapers making the distribution. The water outlet was closed recently, and the reservoir on February 18 had filled to a depth of 13 feet, the flow from its principal feeder, the Quebrada los Guacas, amounting to about a half million gallons daily at the present time. The installation of all pipes and mains is practically completed.

The gate chamber has been finished, and consists of a concrete tower 73 feet high surmounted by a gate house 10 feet high, built of concrete pillars with arched openings. It is reached by a high foot bridge made entirely of concrete, with the exception of the iron guard rail. A type-27 house has been erected a short distance away for the use of the gate tender. No concrete work has yet been accomplished on the spillway of the dam, but about 1,300 cubic yards of material have been excavated from the site. The filtration plant and sedimentation basin designs are practically completed.

Lock Operations at Pedro Miguel.

With the completion of the wooden trestle, which will extend from the forebay into the lock pit, one unit of the permanent mixing and handling plant at the Pedro Miguel Locks may be brought into service. One of the berm cranes is practically ready, a large pile of sand and crushed rock has been stored alongside the forebay trestles, and one of the chamber cranes is already in use. The completion of the above trestle hinges on the concreting of the mitre sill, which occupies a space between the present end of the trestle, and the lip of the forebay. This part of the work is being continued day and night.

At the close of work on Saturday, March 5, one of the forms for the 18-foot west side wall culvert had been nearly enclosed in concrete, and the building of the wall around another form was about half completed. The concrete used at this point is supplied by the temporary mixer on the west bank, and is carried by Porter engines, and flat cars, to the site of operations, where it is placed by the chamber crane. Two trains, each consisting of a Porter locomotive and one flat car, transporting a bucket at a time, are employed in this work.

Concrete had been laid in three of the cross culverts in the east chamber, up to last Saturday night, while a greater part of the floor of the east side wall, up to the culvert level, was in place. A small mass of rock and earth became dislodged from the east bank a few days ago, and slid down onto the wall, covering up a short section of it.

Some of the hard trap rock excavated from the trenches for the lateral culverts in the east chamber is being used to advantage in the concrete construction of the culverts. Much of this rock, when blasted, is broken up into pieces 12 or 14 inches long, and from 4 to 6 inches in thickness. The best of it is carried to one side by crane buckets, and mixed with the concrete as the latter is dumped around the culvert forms. A record of the rock so placed is being kept, and appears under a separate head in the concrete output for the week ending March 5, given below.

	Cubic Yards.	
	Rock.	Concrete.
February 28	....	568
March 1	... .	544
March 2	....	595
March 3	35	696
March 4	37	640
March 5	30	639
Total	102	3,682
Previously reported		64,054½
Grand total	102	67,736½

Dry Season Rainfall.

The greatest rainfall ever recorded in February on the Isthmus was that of last month at Monte Lirio—8.93 inches. This village is on the Gatun River, near the Canal Zone boundary line, and the gaging station has been established there within the past twelvemonth. The data represent conditions for the territory in the Chagres basin, east of Gatun. Previous excessive rainfalls in February were recorded as follows: Cristobal, 6.49 inches in 1899; Gamboa, 4.53 inches in 1889; Bohio, 4 49 inches in 1899; Alhajuela, 3.71 inches, Ancon, 2.90 inches, and Culebra, 2.46 inches, in 1909.

Arrangements have been completed whereby the rainfall record from Porto Bello will be sent by aerogram to Colon. A change has been made in the weekly statement of rainfall as published in THE CANAL RECORD, and the stations are now shown grouped by geographical sections, instead of by construction divisions. Records from Bocas del Toro, in the northwesterly part of Panama; Chorrera, near the headwaters of the Trinidad River, and Chepo, on the Pacific slope, near the headwaters of the Bayano River, are now received regularly by the third division of the Chief Engineer's office; those from Bocas del Toro, by an arrangement with the United Fruit Company, and from the other two stations, by an arrangement with the Panama Government.

Colon Sewer Work.

Work on the new D Street sewer, which inaugurates the sanitary improvements in Colon, provided for by the last Congressional appropriation, was commenced about three weeks ago. Only a small force is employed at present, and these men have been set at work excavating a trench extending from the beach road inland. The top soil is easily removed, but as the excavation progresses downward a mass of coral is encountered, which is difficult to handle. Some pieces of this coral are six or more inches in diameter, resemble limbs of trees, and when broken expose a white, compact surface. The outlet to the sewer will be extended through the coral reefs, which line the shore, to deep water, and in this section, some blasting will be necessary. Water continually seeps into the trench and a hand pump has to be kept going. The sewer will be of concrete construction, and several steel forms for the work, which were made at Gorgona shops, have been received. A railroad track for the transportation of material has been laid the entire length of the present ditch, pipe has been distributed along several of the streets, and a blacksmith shop has been built.

Building Notes.

The old French magazine at Empire, one of the first objects to meet the eye of the railroad traveler coming into the town from the direction of Colon, will be demolished. It comprises two buildings of similar size and design, located side by side. The best of the material procured in dismantling will be utilized in enclosing the east half of building No. 89, containing the Empire car repair shop.

The dismantling of house No. 58, the second of the two type-5 married quarters to be removed from Culebra to Gatun, is in progress. The work of removing and reconstructing the first house was successfully accomplished, and the cost was within the estimate. It was converted into bachelor quarters, while the second house, when set up at Gatun, will be used as married quarters. Both of these buildings stood near the part of the edge of Culebra Cut affected by the November slide.

The commissary building at Corozal was completed on February 11, and was opened for business on the 17th. Plans have been prepared in the office of the Constructing Quartermaster for an ice box to be installed in the store to furnish cold storage facilities.

No. 224, a small building, formerly used as an office by the Mechanical Division at Rio Grande, has been moved to Pedro Miguel, where it will be used as an office in connection with the Pedro Miguel shops. The building heretofore employed for the purpose will be converted into a tool shop and storehouse.

The laborers' barrack at Camp Bierd, Cristobal, has been transferred to the Spillway site at Gatun. It has accommodations for 100 men.

The railroad yard office at Pedro Miguel is being enlarged by the construction of a small two-story addition.

Gatun Locks.

The following is a report of concrete placed in the locks at Gatun in the week ending March 5:

	Cubic Yards.
February 28	2,780
March 1	2,456
March 2	2,376
March 3	2,648
March 4	3,241
March 5	2,534
Total	16,035
Previously reported	224,031
Grand total	240,066

During the week, 2,896 cubic yards of concrete were placed in the Spillway of Gatun Dam.

LOST—On February 27, Canal medal No. 2011, service, 1906–08. A reward of $10 gold will be given to finder on return to house 53, Cristobal, C. Z.

NEW NATIONAL INSTITUTE.

Description of the Five Buildings to be Erected by the Panamanian Government.

At the request of the Secretary of State of Panama, the Chairman of the Canal Commission recently authorized an inspection of the plans and the preparation of an estimate in connection with the new National Institute, now under construction by the Panamanian Government. This work was assigned to the office of the Constructing Quartermaster at Culebra, and has been completed.

The plans provide for the erection of five buildings, forming a quadrangle about 332 feet from north to south, and about 294 feet from east to west. The site is on ground acquired from General Domingo Diaz, and extends from Ancon Boulevard to the Canal Zone boundary road on the north, and from Magoon avenue, to a point about 294 feet distant on the west.

The main building, which will front on Ancon Boulevard, will have a total length of about 263 feet and a depth, in its central portion, of 96 feet. It will be three stories in height, while the four other buildings will be of two stories each. All of the structures will be built of stone and concrete, with a smooth plaster finish. The façade of the main building is designed from the Italian Renaissance. The entrance will be trimmed in marble and moulded concrete, with the effect further heightened by work in bas-relief. The cornices, caps and bases will be of marble, artificial stone, or pressed cement. Two great shields will decorate the front, supported by bronze allegorical figures, one shield representing the nations, and the other, Panama. The relief work on the frieze of the building will be of white statue Carrara marble, representing the development of the arts and sciences. The steps and landings of the main stairway will be of marble and Venetian mosaics; the woodwork of native mahogany, and the balusters and hand rails will be of decorative wrought iron. The ceilings of the principal rooms will be made of decorated canvas; in other rooms, metal ceiling will be used. The central building will contain the classrooms, and on the second floor, there will be a spacious public assembly hall.

Rainfall, March 1 to 5, 1910, Inclusive.
(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Chepo	......	....	......
Ancon	*T	5	*T
Balboa	.00	0	.00
Miraflores	.00	0	.00
Pedro Miguel	.00	0	.00
Rio Grande	.03	5	.03
Central Section—			
Culebra	.03	5	.03
Camacho	.02	4	.03
Empire	.08	5	.08
Gamboa	.02	4	.03
Alhajuela	.01	4	.02
El Vigia	*T	4	*T
Gorgona	.05	4	.05
San Pablo	.19	4	.26
Tabernilla	.27	5	.47
Bohio	.79	4	1.19
Trinidad	......	....	......
Monte Lirio	......	....	......
Atlantic Section—			
Gatun	.26	5	.51
Brazos Brook	59	5	1.27
Cristobal	.11	5	.26
Porto Bello	.76	5	1.11
Nombre de Dios	......	....	......
Bocas del Toro	......	....	......

*Trace.

On the west of the quadrangle, back of the main building, there will be a structure containing a laboratory, museum, library, gymnasium, and other features. On the east of the quadrangle, there will be a dormitory, with accommodations for about 200 students, and in the rear, on the Zone boundary road, there will be a building for the administrative offices, the sick ward, and quarters for the resident physician. To one side of this structure, there will be a building for use as a dining hall and kitchen.

All of the buildings will be electric lighted throughout, and will be fire proof, with roofs of steel construction, and floors of I-beams and reinforced concrete. The floor of the gymnasium will be of brick. The grounds will be enclosed with a stone wall surmounted by a decorative iron railing. In the center of the open court, formed by the quadrangle, there will be a swimming pool, from which covered passageways will extend in four directions. The estimated cost of the grounds and buildings is about $700,000.

Panama Canal Service Medal Association.

At the last meeting of the Panama Canal Service Medal Association, the articles of association and by-laws were adopted and ordered filed with the Clerk of the Circuit Court. The substance of the articles is as follows:

All persons who have earned the right to a service medal shall be eligible to membership. Persons may join as either social or beneficiary members. In the case of the death of an insurance member, a death benefit will be paid not to exceed $500, the amount paid to be in accordance with the membership in good standing at the date of the death of a member, and at the rate of $1 for each member. The death assessments are fixed at the rate of $1 for each death. Yearly dues are at the rate of $1 per year, or part of a year. The insurance benefit will be paid whether death occurs on the Isthmus, or elsewhere, and whether or not the member is still in the employ of the Isthmian Canal Commission or Panama railroad, so long as dues and assessments are paid as levied.

February Rainfall for Three Years.

STATION.	1908.	1909.	1910.	Station average.	Years of record.	No. rainy days—1910.
Pacific Section—	*Ins.*	*Ins.*	*Ins.*			
Chepo	......	......	1.41	......	....	5
Ancon	.24	2.90	.43	.76	12	8
Balboa	.55	1.69	.46	.36	11	7
Miraflores	......	1.81	2.02	1.92	2	6
Pedro Miguel	.00	3.26	.50	1.25	3	6
Rio Grande	.00	2.88	1.00	.69	6	7
Central Section—						
Culebra	.01	2.46	.93	.56	20	9
Camacho	.01	2.16	1.39	.89	4	10
Empire	.00	1.50	.75	.59	5	4
Gamboa	.04	4.07	1.80	.85	25	9
Alhajuela	.18	3.71	2.58	.69	11	10
El Vigia	......	4.88	2.41	3.64	2	5
Gorgona	......	......	1.79	1.17	6	8
San Pablo	.09	1.76	2.87	1.57	3	13
Tabernilla	.35	2.87	2.19	1.80	3	11
Bohio	1.17	3.74	6.89	2.13	15	11
Trinidad	.87	4.27	5.97	3.70	3	19
Monte Lirio	1.38	5.69	8.93	5.33	3	21
Atlantic Section—						
Gatun	1.29	4.12	3.33	2.44	6	16
Brazos Brook	1.17	4.13	3.30	2.38	4	16
Cristobal	1.08	1.92	3.58	1.45	40	17
Porto Bello	......	6.82	5.89	4.74	3	18
Nombre de Dios	......	8.64	4.40	6.52	2	12

The association reserves the right to establish branches in the United States, as well as in the Canal Zone. Applications for membership may be obtained from the secretary of the association.

The following are the officers for the year 1910: President, B. F. Sisson, Gatun; vice-president, J. M. Stanton, Porto Bello; secretary and treasurer, E. F. J. Goldsmith, Ancon; auditor, H. Pearson, Empire; directors, William Claus, T. L. Kent, Paraiso, Allen Swan, Gatun, B. F. Henkle, Gorgona.

Applications for Married Quarters.

On February 1, there were 83 applications on the No. 1 list of applications for family quarters, and 426 applications on the No. 2 list, a decrease of 5 on the No. 1 list, and an increase of 24 on the No. 2 list, as compared with December 31. Of these applicants, approximately 100 are occupying regular family quarters, or nonhousekeeping family quarters, at stations, other than those at which their applications are filed. The list by towns follows:

	No. 1 List.	No. 2 List.
Ancon	6	16
Balboa	2	45
Bas Obispo	1	9
Corozal	1	7
Cristobal	....	122
Culebra	....	1
Empire	1	4
Gatun	49	92
Gorgona	12	72
Las Cascadas	5	10
Miraflores	....	1
Paraiso	....	25
Pedro Miguel	6	6
Porto Bello	....	14
Tabernilla	....	2
Total	83	426
January 1	88	402
December 1	86	413

Applicants on the No. 1 list are employes, who entered the service prior to January 1, 1908, and they are given prior consideration.

Small Arm Marksmanship.

Two revolver matches have been held between the Culebra Pistol Club and the team from the Marine Corps at Bas Obispo, the first, at Camp Elliott, on January 30, and the second, at Culebra, on February 13. The score for each match, 10 shots at each range, possible score 300, follows:

Culebra Team.	*15 yds.*	*25 yds.*	*50 yds.*	*Total*
L. D. Cornish	92	93	65	250
W. L. G. Perry	88	81	76	245
H. F. Tucker	89	80	56	225
T. E. L. Lipsey	83	71	68	222
B. Beckerlegge	83	74	49	206
Team total				1,148
Team average				229 3-5
Marine Corps Team.				
Capt. Van Orden	94	82	77	253
Lieut. Douredoure	90	81	65	236
Maj. Hill	77	84	64	225
Capt. Wadleigh	80	75	58	213
Dr. Zeigler	75	72	37	184
Team total				1,111
Team average				222 1-5
SECOND MATCH.				
Culebra Team.				
W. L. G. Perry	94	86	72	252
L. D. Cornish	95	85	72	252
T. E. L. Lipsey	95	82	74	251
H. F. Tucker	96	91	60	247
B. Beckerlegge	90	77	50	217
Team total				1,219
Team average				243 4-5
Marine Corps Team.				
Lieut. Butler	96	92	73	261
Capt. Wadleigh	89	84	72	245
Capt. Van Orden	88	83	71	242
Lieut. Heffley	85	83	62	230
Maj. Hill	83	79	58	220
Team total				1,198
Team average				239 3-5

CANAL MEDAL LIST.

The following is a list of American employes of the Isthmian Canal Commission, who completed two years' service on the Isthmus during the twelve months ending December 31, 1909, and for that reason are entitled to receive the Canal Medal. The date shown opposite each name is that from which medal service is reckoned.

The list is now published in order that it may be carefully checked by those interested. Any omissions, errors in the spelling of names, or in the dates from which medal service is reckoned, should be reported to the Assistant to the Chairman, at Culebra, for correction.

In numbering the medals the relative standing of employes, whose medal service is reckoned from the same date, will be determined by lot. The list will be continued in THE CANAL RECORD of March 16, 1910.

Name.	*Date.*
1907.	
Weston, Alfred F.	Jan. 1
Stewart, Archie C.	Jan. 2
Wynn, John	Jan. 2
Bloss, Harry I	Jan. 3
Johnson, Pearl A.	Jan. 3
Jones Llewellyn E.	Jan. 3
McVay, Elmer E.	Jan. 3
Pritchard Luther	Jan. 3
Baumgart, J. Peter	Jan. 7
Corrigan, John P.	Jan. 8
DeVogel, Cornelius	Jan. 8
Donahoe, Tim J.	Jan. 8
Gilmartin, Charles A.	Jan. 8
Ham, Harry E	Jan. 8
Taylor, Warren P.	Jan. 8
Textor, Harry N.	Jan. 8
Warren, Thomas	Jan. 8
Grozier, Thomas	Jan. 10
Borden, Edison	Jan. 14
Buterbaugh, Frank	Jan. 14
Cooper, David A.	Jan. 14
Lafferty, Edmund F.	Jan. 14
Abernathy, Sherman C.	Jan. 15
Adams, Harvey S.	Jan. 15
Blakeman, Will C.	Jan. 15
Duncan, Robert H	Jan. 15
Jennings, Charles E.	Jan. 15
Kennedy, Archie	Jan. 15
McGovern, John F.	Jan. 15
Murray, Alexander	Jan. 15
Turner, James M.	Jan. 15
Simmons, Mary E.	Jan. 16
Kibbey, Biscoe A.	Jan. 17
Evans, William A.	Jan. 18
Hamrick, Mileters L.	Jan. 21
Harry, Samuel B.	Jan. 21
Krepleever, Louis M.	Jan. 21
Marquiss, Henry E.	Jan. 21
McGowan, Arthur J.	Jan. 21
Palmer, Eugene A	Jan. 21
Penn, Arthur B.	Jan. 21
Roberts, Fred C.	Jan. 21
Snell, Lord O.	Jan. 21
Thorpe, L. Dean	Jan. 21
Watson, Tillmon H.	Jan. 21
Morgan, Morton M.	Jan. 22
Espy, Louis	Jan. 23
Evans, Peter	Jan. 23
Gibson, Edward F.	Jan. 23
Hamilton, James W.	Jan. 23
Shortt, Frederick	Jan. 23
Fey, Walter	Jan. 24
Shick, Harry W.	Jan. 24
Gilman, William F.	Jan. 25
Baker, Frederick M.	Jan. 28
Hoffmann, John L.	Jan. 28
MacPherson, George W.	Jan. 28
Murtagh, William E.	Jan. 28
Nevinger, Preston	Jan. 28
Sheehy, Dennis	Jan. 28
Stanley, Harry W.	Jan. 28
Terwilliger, Ellsworth B.	Jan. 28
Walsh, Groesbeck	Jan. 28
Fuhrman, G. A.	Jan. 29
Hines, William P.	Jan. 29
Adams, Charles S.	Jan. 30
Burnham, Walter S.	Jan. 30
Dunning, Lon B.	Jan. 30
Loulan, John T.	Jan. 30
Phelan, Joseph	Jan. 30
Ryan, Thomas F.	Jan. 30
Stanley, Lewis P.	Jan. 30
Hoyt, Charles	Feb. 1
Campbell, Edward	Feb. 3
Corrigan, Peter F.	Feb. 3
Cunningham, Homer C.	Feb. 3
Davis, Fred	Feb. 3
Ryberg, Oscar A.	Feb. 3
Smallwood, William S.	Feb. 3
Wood, Joseph C.	Feb. 3
Zerman, Samuel	Feb. 3
Reese, T. J.	Feb. 5
Wilson, John	Feb. 5
Abercrombie, John	Feb. 6
Brown, John J.	Feb. 7
Golather, Prentiss E.	Feb. 7
Hoey, John	Feb. 7
Avis, Hugh B	Feb. 8
Gabler, Albert	Feb. 8
Keltz, Ellis J.	Feb. 8
Long, John H.	Feb. 8
Newnham, Frederic W.	Feb. 8
Rasmussen, Alfred C	Feb. 8
Stewart, Arthur B.	Feb. 8
Fenton, George D.	Feb. 11
Heckman, John H.	Feb. 11
Conlan, Charles P.	Feb. 12
Demuth, William	Feb. 12
Gallagher, Charles G.	Feb. 12
Hughes, Thomas	Feb. 12
Knight, Frank W.	Feb. 12
Leys, James F	Feb. 12
McCulloch, Champe C.	Feb. 12
McCulloch, John A.	Feb. 12
Roberts, Richard	Feb. 12
Smith, Richard C.	Feb. 12
Starbuck, David A.	Feb. 12
Thomas, Charles E.	Feb. 12
Weldon, Frank D.	Feb. 12
Weling, Benjamin D.	Feb. 12
Willing, R. E.	Feb. 13
Carr, Frank L.	Feb. 18
Collins, Harry A.	Feb. 18
Collins, John J.	Feb. 18
Davis, Ivor E.	Feb. 18
Harwood, Robert	Feb. 18
Kull, August	Feb. 18
McLoughlin, Patrick A.	Feb. 18
Morrison, John H.	Feb. 18
Mudgett, Benjamin F.	Feb. 18
Putnam, James L.	Feb. 18
Shaeffer, Louis E.	Feb. 18
Sheetz, Robert V.	Feb. 18
Schenck, Samuel B.	Feb. 18
Schlager, Charles J.	Feb. 18
Altz, Edward W.	Feb. 22
Costello, Edmund T.	Feb. 22
McCall, Harold C.	Feb. 22
Nielsen, George N.	Feb. 22
Toby, William	Feb. 22
Wuerth, Gus C.	Feb. 22
Moeller, L. A.	Feb. 23
Mers, John B.	Feb. 25
Butler, Thomas J.	Feb. 26
Collins, Cleveland C.	Feb. 26
Davies, John L.	Feb. 26
Humphrey, James H. K.	Feb. 26
Moebs, Adolph E.	Feb. 26
Shaw, William D.	Feb. 26
Steere, Amos C.	Feb. 26
Draughon, Rufus L.	Feb. 27
Giavelli, Leon W.	Feb. 28
McKelvey, John F.	Feb. 28
Brooke, William S.	Mar. 1
Moran, John J.	Mar. 1
Powell, Charles W.	Mar. 1
Sullivan, Michael	Mar. 1
Beard, James A.	Mar. 2
Wertz, Fred L.	Mar. 2
Christ, John S.	Mar. 3
Bain, Harry G.	Mar. 4
Blaisdell, James	Mar. 4
Hutton, Samuel	Mar. 4
Ives, Jesse R.	Mar. 4
Markham, Albert V.	Mar. 4
Marsh, Hugh C.	Mar. 4
Chaney, Reuben	Mar. 5
Kitchen, Guy G.	Mar. 5
Dungan, C. P.	Mar. 6
Bolton, George A.	Mar. 7
Evans, Peter	Mar. 7
Mack, Walter E.	Mar. 7
Moulton, Nora E.	Mar. 7
Radcliffe, Benjamin D.	Mar. 7
Terry, George E.	Mar. 8
Arrott, William P.	Mar. 11
Bethards, Edwin A.	Mar. 11
Breneman, Wilson O.	Mar. 11
Crawford, William C.	Mar. 11
Crump, Hammond F. Jr.	Mar. 11
Dew, Michael	Mar. 11
Drysdale, Warren D.	Mar. 11
Ewen, William J.	Mar. 11
Goulette, Amada J.	Mar. 11
Jewett, Charles H.	Mar. 11
Kerr, Alphonsus L.	Mar. 11
McGraw, Daniel	Mar. 11
Ragan, Robert H.	Mar. 11
Reese, John L	Mar. 11
Reeves, Arthur F.	Mar. 11
Riddle, Waldo R.	Mar. 11
Schoellhorn, Henry	Mar. 11
Spinks, James	Mar. 11
Stevens, Edward W.	Mar. 11
Thigpin, Calvin	Mar. 11
Toberer, Charles H.	Mar. 11
Wollenberger, Paul	Mar. 11
Baxley, William H.	Mar. 12
Burrell, Herman L.	Mar. 12
Burrell, Joseph A.	Mar. 12
Gaillard, D. D.	Mar. 12
Goethals, George W.	Mar. 12
Hill, John	Mar. 12
Mitchell, James	Mar. 12
Moorman, George L.	Mar. 12
Prochaska, John P.	Mar. 12
Warju, Samuel	Mar. 12
Bruner, Harry E.	Mar. 13
Farrell, William B.	Mar. 13
Callaway, Lawrence C.	Mar. 14
Grier, Baxter R.	Mar. 14
Seaman, Albert	Mar. 14
Watson, Roy R.	Mar. 14
Jewett, Mary	Mar. 16
Bache, Charles W.	Mar. 18
Bunting, Nelson W.	Mar. 18
Garvin, John M.	Mar. 18
Gray, John W.	Mar. 18
Hennen, Lawrence W.	Mar. 18
Hoadley, Edward D.	Mar. 18
Kilmurray, William J.	Mar. 18
McCusty, William H.	Mar. 18
Phillips, John F.	Mar. 18
Raiford, Andrew L.	Mar. 18
Sibert, William L	Mar. 18
Snyder, Adam F.	Mar. 18
Sutherland, Charles H.	Mar. 18
Taylor, George C.	Mar. 18
Todt, Frederick M.	Mar. 18
Tolar, James L.	Mar. 18
Baker, Samuel G.	Mar. 19
Clairain, Louis J.	Mar. 19
Claybourn, Verner M.	Mar. 21
Elsey, John T.	Mar. 21
Jay, William C.	Mar. 21
Lamb, Edward	Mar. 21
Reeves, Archibald, Jr.	Mar. 21
Rousseau, H. H.	Mar. 21
Shaw, John E.	Mar. 21
Smallwood, Thomas H.	Mar. 21
Smith, Samuel L.	Mar. 21
Waldron, Arthur W.	Mar. 21
White, Arthur C.	Mar. 21
Coyle, Frank J.	Mar. 23
Henry, Samuel L.	Mar. 23
Wertz, Carl A.	Mar. 23
Adams, James H.	Mar. 25
Carswell, Louis C.	Mar. 25
Bassett, Arthur M.	Mar. 27
Bork, Fred A.	Mar. 27
Bradford, Grover C.	Mar. 27
Elmgren, Gustave R. A.	Mar. 27
Housel, William H.	Mar. 27
Howard, George A.	Mar. 27
King, Clarence R.	Mar. 27
Lord, Elmer E.	Mar. 27
Markham, Mary C.	Mar. 27
McCarty, Marcus J.	Mar. 27
O'Shea, Eugene V.	Mar. 27
Pearson, Frank	Mar. 27
Piper, Len W.	Mar. 27
Pruyne, Allen L	Mar. 27
Robison, Willard L.	Mar. 27
Stephens, Nathaniel R.	Mar. 27
Thomson, Emily C.	Mar. 27
Yount, Jesse L.	Mar. 27
Kaulbach, Fred M.	Mar. 30
Ulmer, Frank W.	Mar. 30
Brown, James R.	Apr. 1
Lyon, George W.	Apr. 1
Bridges, John J	Apr. 2
Brown, Arthur R.	Apr. 2
Capwell, John H.	Apr. 2
Crossley, Samuel J.	Apr. 2
Crouch, Walter E.	Apr. 2
Davis, Willis C.	Apr. 2
Downey, Michael J.	Apr. 2
Ericson, John A.	Apr. 2
Jordan, William B.	Apr. 2
Kempton, Clarence W.	Apr. 2
Laitinen, Albiin	Apr. 2
Lawver, Jacob I.	Apr. 2
McClelland, John L.	Apr. 2
McCord, John E.	Apr. 2
Nupp, Warren	Apr. 2
Repp, Earnest A.	Apr. 2
Soder, Frank J.	Apr. 2
Sommers, Fred C	Apr. 2
Steele, Harry S.	Apr. 2
Tafel, Archie J.	Apr. 2
Uhrich, Edward	Apr. 2
Weber, William	Apr. 2
White, James A.	Apr. 2
Buckingham, Charles	Apr. 3
Hiscock, William P.	Apr. 3
Ernstdorf, Arthur R.	Apr. 4
Holden, Vernon A	Apr. 4
Storey, N. C.	Apr. 4
Blount, William J.	Apr. 5
Bowers, Harry C.	Apr. 6
Boyer, Charles S.	Apr. 6
Calvert, Frederick G.	Apr. 6
Carter, Andrew J.	Apr. 6
Decker, Chester W.	Apr. 6
Newnham, William H.	Apr. 6
Phoenix, Jesse H.	Apr. 6
Stickel, Merton J.	Apr. 6
Thom, William M.	Apr. 6
Brown, Elliot F.	Apr. 8
Richardson, Steve F.	Apr. 8
Farmer, Luke H.	Apr. 9
Lowe, Euclid J.	Apr. 9
Barrett, James W.	Apr. 10
Bernson, Jacob	Apr. 10
Brown, Thomas E., Jr.	Apr. 10
Hostetter, Morris B.	Apr. 10
Kiehle, Fred E.	Apr. 10
Krans, John L.	Apr. 10
McPherson, Clinton N.	Apr. 10
Miskimon, Thomas B.	Apr. 10
Parsons, John C.	Apr. 10
Pitts, Melvin P.	Apr. 10
Poore, Walter C.	Apr. 10
Potts, George H	Apr. 10
Souder, Samuel R	Apr. 10
Spangler, George D.	Apr. 10
Waid, Elbert S.	Apr. 10
Walters, Oscar G.	Apr. 10
Wilber, Delbert H.	Apr. 10
Martinez, Frank C.	Apr. 11
Hobby, W. R.	Apr. 12
Lindsay, Robert E.	Apr. 12
Perrott, Edwin	Apr. 13
Argraves, Eugene G.	Apr. 14
Bargerstock, Ord	Apr. 14
Bolen, William H.	Apr. 14
Bruck, Harry W.	Apr. 14
Flaherty, Michael	Apr. 14
Harris, Robert J., Jr.	Apr. 14
Langston, Thomas	Apr. 14
Levy, Nathan L.	Apr. 14
Marshall, Cary B.	Apr. 14
Pinkerton, Allen	Apr. 14
Pipher, Arthur J.	Apr. 14
Shafer, Neil	Apr. 14
Scholz, Ernest	Apr. 14
Ware, Benjamin W.	Apr. 14
Cummings, William	Apr. 15
Cate, James S.	Apr. 16
Milem, Francis A.	Apr. 16
Shelton, William P.	Apr. 16
Drake, Lyman D.	Apr. 17
Nolan, Alphonsus P.	Apr. 17
Arden, John W.	Apr. 18
Ewing, Homer L.	Apr. 18
Argraves, Lizabeth I.	Apr. 20
Atterberry, Carl L.	Apr. 20
Bevington, Harry W	Apr. 20
Bullard, Chester M.	Apr. 20
Crocker, William S.	Apr. 20
Decker, Elizabeth	Apr. 20
Eberenz, Alexander	Apr. 20
Fahr, Clarence W.	Apr. 20
Garver, John A.	Apr. 20
Greenman, Norton E.	Apr. 20
Hahn, John G.	Apr. 20
Kindred, Thomas E.	Apr. 20
MacDonald, Daniel J.	Apr. 20
Smith, William E.	Apr. 20
Stratton, Henry S.	Apr. 20
Curran, William F.	Apr. 23
Fellinger, Frederick	Apr. 23
Foster, Louis E.	Apr. 23
George, James S.	Apr. 23
Hayes, Frank C.	Apr. 23
Kimmel, Joseph F.	Apr. 23
Loos, Charles H.	Apr. 23
Mansberger, James E.	Apr. 23
Pinsoneault, Wilmer D.	Apr. 23
Polak, Samuel	Apr. 23
Proctor, Alman R.	Apr. 23
Scott, Thomas W.	Apr. 23
Conway, Jesse C.	Apr. 24
Armstrong, Robert	Apr. 25
Hall, William	Apr. 25
McGovern, Thomas	Apr. 25
Bowen, Albert S.	Apr. 30
Brown, William T.	Apr. 30
Ransbottom, Ivah J.	Apr. 30
Reisinger, Carl L.	Apr. 30
Rupp, Manning E.	Apr. 30
VanDeventer, Martha	Apr. 30
Lawler, John M.	May 1
Snyder, Charles O.	May 1
Shook, Francis M.	May 2
Melgord, Julius J.	May 3
Ebdon, Thomas J.	May 4
Cannon, Jerry	May 6
Connor, Roland C.	May 6
Dorsey, William B.	May 6
Fetters, William	May 6
Freeland, William K.	May 6
Gill, Robert S.	May 6
Jarboe, James H.	May 6
Macy, Robert C.	May 6
Seewald, Roscoe S.	May 6
Williams, Hutton	May 6
Whelan, John T.	May 7
Blackburn, Jo C. S.	May 8
Buck, Lawrence D.	May 8
Cremer, Theodore H.	May 8
Curtis, Myron S.	May 8
Cushman, Charles T.	May 8
Grover, Edgar L.	May 8
Larson, John E.	May 8
McCullough, Andrew L.	May 8
Reilly, Charles J.	May 8
Ridpath, William M.	May 8
Vogan, George H.	May 8
Henshaw, Marie P.	May 9
Roberts, Fern M	May 9
Walker, Patrick	May 10
Bromley, John Z.	May 13
Burnham, Joshua T.	May 13
Byrnes, Lewis A.	May 13
Drake, Theodore M.	May 13
Edwall, Alfred	May 13
Howe, William G.	May 13
Hudson, Henry H.	May 13
Johnson, William O.	May 13
Jones, George A.	May 13
Moore, William A.	May 13
Muck, Charles	May 13
Naylor, Andrew N.	May 13
Shaffer, George	May 13
Storla, Henry W.	May 13
Porter, Harry A.	May 16
Booth, Samuel	May 17
Brooking, Peyton	May 17
Clause, Fred W.	May 17
Collins, William E.	May 17
Davis, Grace H.	May 17
DeMoll, Theodore G.	May 17
Duckworth, George E.	May 17

STEAM SHOVEL RECORDS.

Over 4,000 Cubic Yards Taken Out By One Shovel in 8 Hours—February Records.

On Saturday, March 5, 1910, shovel 213, working in the Culebra Construction District of the Central Division, broke all records for daily excavation since the commencement of work by the United States. During the working day of eight hours, that shovel excavated 4,009 cubic yards of rock and earth, loading 211 Lidgerwood flats with the material removed. The shovel was under steam eight hours, was actually digging seven hours, and was waiting for cars, etc., one hour.

On Saturday, March 5, 1910, sixteen shovels, working in the Culebra Construction District of the Central Division, excavated 26,152 cubic yards of rock and earth during the working day of eight hours, an average of 1,635 cubic yards per shovel for the day. The material was loaded into 1,258 Lidgerwood flats and 225 small Western and Oliver dump cars, a total of 1,483 carloads. The shovels were under steam 128 hours, actually digging 83 hours and 50 minutes, waiting for cars 32 hours and 55 minutes, and mining, clearing track, undergoing minor repairs, etc., for the balance of the time.

On Saturday, February 26, 1910, sixteen steam shovels, working in the Culebra Construction District of the Central Division, excavated 25,968 cubic yards of rock and earth during the working day of eight hours, an average of 1,623 cubic yards per shovel. The shovels were under steam 128 hours, and were actually digging 93 hours, the rest of the time being lost in waiting for cars, mining, cleaning track, etc. The material excavated was loaded upon 1,240 Lidgerwood flats, 34 large Western dump cars, and 183 Oliver and small Western dump cars, a total of 1,457 carloads.

During the month of February the total amount of material excavated in the Central Division was 1,546,267 cubic yards, of which 413,131 cubic yards were classified as earth and 1,133,136 cubic yards as rock. Of this quantity, 1,503,223 cubic yards were removed by steam shovels, 9,196 cubic yards by hand and scrapers, and 33,063 cubic yards by contract, from the Canal prism. In addition, 785 cubic yards were excavated by hand for inclines.

The high record of the month was made by shovel No. 214, working twenty-three days in the Culebra District, which excavated 50,677 cubic yards of rock.

The second best record for the month was made by shovel No 223, working twenty-two days in the Culebra District, which excavated 43,636 cubic yards of rock.

The best record for a shovel in the 70-ton class was made by shovel No. 125, working in the Tabernilla District, which excavated 28,276 cubic yards of earth in twenty-three working days.

Shovel No. 227, in the Empire District, made the high record for one day, by excavating 2,774 cubic yards of rock on February 23.

Shovel No. 122, working in the Bas Obispo District, excavated 1,880 cubic yards of earth on February 7, which was the high record for one day for a 70-ton shovel during the month.

Monthly records are computed by place measurement, while the daily records are based on car measurement. The best records for the month and for one day in each district are shown below:

Best Records for the Month.

TABERNILLA DISTRICT.

Shovel No.	Cubic Yards.			No. of days at work.
	Earth.	Rock.	Total.	
125	28,276	....	28,276	23
114	21,026	....	21,026	22

BAS OBISPO DISTRICT.

Shovel No.	Earth.	Rock.	Total.	No. of days at work.
222	5,731	25,723	31,454	18
128	26,612	....	26,612	*

EMPIRE DISTRICT.

Shovel No.	Earth.	Rock.	Total.	No. of days at work.
227	....	41,107	41,107	23
257	....	38,412	38,412	23

CULEBRA DISTRICT.

Shovel No.	Earth.	Rock.	Total.	No. of days at work.
214	....	50,677	50,677	23
223	....	43,636	43,636	23

*Casting below grade.

BEST RECORDS FOR ONE DAY.

Shovel No.	Location.	Date.	Character of material excavated.	Cubic yds. excavated.
125	Tabernilla.......	Feb. 26.	Earth..........	1,580
125	Tabernilla.......	Feb. 25.	Earth..........	1,560
114	Tabernilla.......	Feb. 7.	Earth..........	1,203
222	Bas Obispo......	Feb. 25.	Rock...........	2,318
222	Bas Obispo......	Feb. 24.	Rock...........	1,976
122	Bas Obispo......	Feb. 7.	Earth..........	1,880
258	Bas Obispo......	Feb. 19.	Earth..........	1,800
227	Empire..........	Feb. 7.	Rock...........	2,774
227	Empire..........	Feb. 8.	Rock...........	2,660
260	Empire..........	Feb. 5.	Rock...........	2,489
217	Culebra..........	Feb. 23	Rock...........	2,736
217	Culebra..........	Feb. 19.	Rock...........	2,679
214	Culebra..........	Feb. 8.	Rock...........	2,584

Pacific Division Rock Crushers.

A total of 30,440 cubic yards of crushed rock was produced by the Pacific Division crushers during February, 7,416 cubic yards by the Rio Grande plant, before it was shut down, and 23,024 by the Ancon Hill plant. This rock was used in various parts of the work in the Pacific Division, but the bulk of it went to Pedro Miguel, 11,760 cubic yards being used in the locks there, while 16,500 cubic yards were stored. The record of the Ancon Hill plant for the week ending March 5, follows:

	Carloads.
February 28..................................	161
March 1.......................................	129
March 2.......................................	152
March 3.......................................	151
March 4.......................................	191
March 5.......................................	206
Total..	990*

*Equivalent to about 9,900 cubic yards.

Rock Crushing at Porto Bello.

A statement showing the amount of rock crushed at Porto Bello, by days, for the week ending March, 5, follows:

	Cubic Yards.
February 28..................................	2,627
March 1.......................................	3,615
March 2.......................................	2,473
March 3.......................................	2,947
March 4.......................................	2,723
March 5.......................................	2,468
Total..	16,853

Recovery of the Mauretania.

The steam launch *Mauretania* of the Pacific Division fleet, which sank on the night of February 12 in a collision with clapet *No. 5*, at a point in the Pacific entrance, near the intersection of the old and new channels, was located on February 28. A clapet pulled the boat off the bottom on the following day, and towed it to the shipways, where it will be repaired and again placed in service. The hull of the vessel was partly stove, and the boiler was dislodged and driven entirely out of the boat, although the engine escaped serious damage. No trace of the colored engineer-fireman, who is supposed to have gone down with the launch, has been found.

Heroism of a Spanish Laborer.

On February 24, Angel Alvarez, a Spanish laborer who has been on the Canal work since February 9, 1906, was working as "dobey" man with the crew of steam shovel No. 201 in Culebra Cut, at Bas Obispo. In rock excavation it happens frequently that the material blasted by dynamite, although broken away from the main ledge and even shattered into small fragments in places, contains some pieces of rock too large for a steam shovel to handle. Such pieces are broken by a charge of dynamite placed on the surface, known as "dobey" shots. At 4.10 o'clock in the afternoon, Angel Alvarez was preparing one of these shots in the pit in front of his steam shovel. The superintendent of construction in the Bas Obispo District, in reporting what happened, said:

"Alvarez had placed a 'dobey' consisting of ten or twelve sticks of dynamite on a rock in the bottom of the pit. One of the pitmen noticed a rock falling from the top of the bank and shouted to Alvarez, who, with rare presence of mind, tried to snatch the dynamite away. He succeeded in getting nearly all, but unfortunately did not get the exploder. The result was that Alvarez was the only one injured, notwithstanding the fact that the entire shovel crew, a conductor and a brakeman, were within twenty feet of the explosion. There were seven or eight sticks of dynamite found on the ground in the immediate vicinity, which could have come only from this particular shot."

In the explosion, Alvarez' right foot was fractured, right great toe burned off, right arm and side burned, and left side burned. He is at Ancon hospital, and is slowly recovering.

No Work at Cartagena.

Numerous inquiries have been made lately at the British Legation in Panama, and at the British Vice-Consulate in Colon, by West Indians, who have heard that work is to be undertaken in Colombia. Mr. H. O. Chalkley, Acting British Minister, therefore, telegraphed to His Majesty's Minister at Bogotá to ascertain if there was any foundation for the rumor, and the reply received has caused him to issue the following:

WARNING.

British West Indians, who may be thinking of going to Cartagena in search of employment, are warned that this Legation has received a telegram from His Majesty's Minister in Colombia, stating that there is no contract for the construction of an Atrato canal, and no prospect of work at, or near Cartagena.

British Legation, Panama, March 3, 1910.

Probable Murder.

Juan Martinez, a Spanish laborer, was shot by a fellow Spaniard, Cirilo Ramos, about 12.30 o'clock on the morning of March 6, at a place called El Calvario, 2½ miles east of Empire. Martinez will probably die. Ramos is in custody.

All electrical supplies will hereafter be kept in stock at the Empire storehouse, in addition to steam shovel repair parts. A floor is being built over the office section of the building, which will supply additional storage room.

SOCIAL LIFE OF THE ZONE.

Women's Clubs, and Other Features.

A meeting of the executive board of the Canal Zone Federation of Women's Clubs and a conference of presidents was held at the Commission clubhouse, Gorgona, on Friday afternoon, March 4. The annual meeting will be held at Empire on Tuesday, April 4, beginning at 1.30 o'clock, the business meeting to be followed by the election of officers. Arrangements for the social session, which will begin at 4 o'clock, are left with the entertaining club. Clubs should elect their delegates at once and forward the names to Miss Beattie, Ancon. Each club is entitled to representation by its president, or her representative, and three delegates. Four alternates are also to be elected. All the members of the clubs are urged to attend the meeting. They may take part in discussions on all measures that are brought forward, but, unless authorized as delegates, are not entitled to introduce motions, or to vote. The president appointed a nominating committee composed of Mrs. Carl H. Elliott, chairman, and the presidents of the clubs. A committee on the revision of the by-laws was also appointed. At the close of the meeting, the Gorgona club entertained the visitors at tea, during which Mrs. G. H. Pierson and Miss Anderson sang.

A meeting of the Gorgona Woman's Club will be held at the clubhouse on Thursday, March 10, when the program will be in charge of the art department. The membership of the club has more than doubled during the past month.

The president of the Canal Zone Federation was the guest of the Pedro Miguel Woman's Club at the meeting on Wednesday, March 2, and made an address on the opportunity for growth and development in club life. The exhibit of the pictures of the Federation traveling art gallery will be continued at the meeting on March 16, when papers will be read by Mrs. Dorsey and Mrs. Curran. The meeting will be held in the clubroom at 3 p. m.

The Empire Woman's Club held a reception in honor of Mrs. H. C. Ball at the clubhouse on Thursday afternoon, March 3, at which a large number of women were present. The entertainment hall was decorated with flags, palms and cut flowers. The reception committee was composed of the officers of the club and chairmen of committees. There was a program consisting of songs, violin and piano selections, and recitations. The club presented Mrs. Ball with a cloisonné vase as a souvenir of her club life in the Canal Zone. The Empire Club is making plans for an extension of the scope of its work. The organization of a chorus club and dramatic department are contemplated, and a home committee will be appointed at once to work in connection with the Canal Zone Federation.

The business meeting of the Gatun Woman's Club was held in the Commission chapel on Friday afternoon, March 4. The next meeting of the club will be held at the home of the chairman of the home committee, Mrs. J. P. Jervey. There will be demonstrations of recipes for salads, and an address on the care of young children and infants.

A meeting of the women of Colon and Cristobal was held at the Commission clubhouse on Wednesday afternoon, March 2, when Mr. Charles H. Drum, international secretary of the Young Men's Christian Association, made an address on the responsibilities of parents in the rearing of their children. The speaker was introduced by Mrs. Carl H. Elliott, wife of the pastor of the Cristobal Union Church.

Church Work.

The Cristobal Union Church held a social and entertainment at the chapel on Friday evening, March 4. The program consisted of orchestral selections; songs by the Cristobal Glee Club, and a series of tableaus entitled "The Reveries of a Bachelor."

The Gorgona Christian Endeavor Society will hold an open air meeting at the band stand on Sunday evening, March 13. The Marine band will play and there will be solos and addresses. The meeting will begin at 7 o'clock.

The next sewing meeting of the Woman's Guild of St. Luke's Church, Ancon, will be held at the home of Mrs. Joseph Bucklin Bishop on Monday afternoon, March 14, from 3 to 5 o'clock.

Rules for Colon Playground.

The following rules and regulations have been formulated governing the use of the Colon playground:

The playground is for the children of Colon under 14 years of age, and will be open daily, except Saturdays and Sundays, from 3 to 6 p.m. On Saturdays, the hours are from 9 to 12 a. m., and from 2 to 6 p. m.; and on Sundays, from 12 noon to 6 p. m. Any child of school age found on the playground during school hours will be taken before the Alcalde to explain why he or she is not in school.

Opening of Gatun Clubhouse.

About 700 people attended the official opening of the Gatun Y. M. C. A. on Saturday night, March 5. In addition to pennants and pictures, the decorations of the building consisted of palms, ferns, Japanese lanterns and umbrellas. An American flag formed of electric bulbs was suspended over the entrance. The entire building was inspected by the visitors, many of whom came from the towns along the line, by a special train arranged for by the committee on transportation.

The program of speeches and music was as follows, Lieut.-Col. William L. Sibert, presiding:

1. Opening Selection.....................Orchestra.
2. Invocation.......Chaplain H. A. Brown, U. S. A.
3. Address of Welcome..Lieut.-Col. Wm. L. Sibert.
4. Contralto Solo—*Still as the Night*.....Mrs. G. M. Hoffman. Violin obligato by Miss Maria Elise Johnson.
5. Representing the Advisory Committee. Col. W. C. Gorgas.
6. Violin Solo—*Mendelssohn's Spring Song*....Miss Maria Elise Johnson, Miss Chinn, accompanist.
7. Greetings from other Y. M. C. A-s.:
   Culebra............................Mr. E. E. Lee.
   Empire....................Mr. W. W. Warwick.
   Gorgona.......................Judge J. B. March.
   Cristobal..........Judge Thomas E. Brown, Jr.
8. Selection..................................Orchestra.
9. Address—*Fraternity*........Mr. F. C. Freeman.
10. Address—*Our Y. M. C. A*.....Mr. J. W. Roland.
11. Greetings from the International Committee, Y. M. C. A...................Mr. Charles R. Drum.
12. Benediction.................Rev. Carl H. Elliott.
13. Orchestra..................Star Spangled Banner.

The committee in charge was: Maj. Chester Harding, Maj. J. P. Jervey, G. M. Wells, L. G. Thom, Maj. G. M. Hoffman, E. O. Keator, James Hortenstine, Lieut. Frank O. Whitlock.

Sunday night, the second celebration was held when the following program of religious exercises was given, Mr. F. C. Freeman, general secretary of the Canal Zone Y. M. C. A., presiding:

1. Song Service........Mr. G. R. D. Kramer, Leader
2. Scripture Reading......Mr. Frank Gardner Smith
3. Vocal Solo........................Miss Bessie Moulton
4. Prayer......................Rev. W. M. Cross, D. D.
5. Hymn................ ....Congregation
6. Address..............................Mr. H. L. Stuntz
7. Quartet.... { Mrs. A. R. Brown, soprano; Mr. Shailer, tenor; Mrs. W. N. Windes, alto; Mr. Ruckert, bass.
8. Address..........................Judge H. A. Gudger
9. Vocal Solo ....Mrs. H. G. E. Schrieber
10. Closing Hymn..........................Congregation
11. Benediction .... Rev. W. M. Cross, D. D.

The committee in charge was: Mr. Cotton, chairman, Messrs. Wittrig, Standifer, St. Clair, Gilkey, Brownell, Waide, and Windes.

Personal.

Mr. John M. G. Watt, Assistant Division Engineer in the Pacific Division, returned on the *Atenas*, on March 3, from his leave of absence in the States.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Hotel Tivoli, Ancon C. Z., on Sunday, March 13, 1910, at 7.30 p. m. The program follows:

1 March—*Under Freedom's Banner*....Nowowieski
2 Selection—*Marcelle*..............................Luders
3 Popular Song—*Silver Threads Among the Gold*.......................................Danks
4 Funeral March—*Eternal Rest*.................Hall
In memoriam of the late President Obaldía.
5 Grand Selection from Lohengrin.........Wagner
6 Idyl—*The Glow Worm* (By request)......Lincke
7 Overture—*Comique*........................Keler Bela
8 Paraphrase—*Nearer, My God, to Thee*.....Reeves
Introducing trombone sextet.
9 *Two Hungarian Dances*.....................Brahms
10 March—*Wien bleit Wien*.............Schrammel

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Porto Bello, on Sunday, March 20, at 2 p. m.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., March 2, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Adams, Miss Alaxendrie
Beckles, Josephine A.
Bowman, Robert
Clark, St. S.
Cook, Harry
Copeland, H. A.
Ellis, Wm. L.
Farr, B. J.
Fiege, Henry C.
Glendinning, T. T.
Graham, Clifford
Greenberg, M.
Helliksen, Captain
Hennessy, John
Heslin, Thomas E.
Hicks, A. Q.
Hoffman, Mrs. C. David
Kozman, B.
Kunce, Oran
La Croix, Ephram
McEvers, Mrs. Rado
McFarland, John
McPherson, Miss Belle
Mansberger, Jas.
Miller, Miss Minnie
Miller, John
Moore, Frank H.
Orr, Elmer
Reinoehl, I. K.
Rogers, Charles F.
Ryan, Thomas E.
Soden, William O. E.
Stewart, Gordon
Venalta, Oliver
Warle, Patrick
Weinhart, C. H.
Wheeler, Clarence
Wheeler, Mrs. Edith
Woodward, Mrs. A. G.

LETTERS UNCALLED FOR MARCH 9, 1910.

Banks, John
Besson, Frank S.
Bost, J. E.
Biemeret, John
Bushnell, Henry H.
Byram, Fred
Carson, Mrs. Arthur
Casey, John E.
Chase, Herbert, D.
De Silva, Mrs. Louisa
Earll, George D.
Emmons, N. E.
Everett, Fred
Follman, Matt
Fonda, George
Foster, Mrs. Frank
Fraser, Howard
Gilling, George
Gross, George A.
Hayes, Mrs. L.
Jones, M. K.
Law, Foster F.
Marckuss, Miss Sadie
Martin, Oswald
Miller, W. L.
O'Sullivan, Michael
Parrinello, Frank
Pflueger, E. B.
Pollenger, Mrs. T. O.
Presler, George
Reinhold, Ernest M.
Rennie, Elias
Richardson, Levin
Roth, Mrs. Thomas
Stapleton, Robert B.
Wardwell, Mrs. Mary S.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

The league indoor baseball game played between Gorgona and Culebra, resulted in favor of Gorgona, 16 to 11. The line up was as follows: Gorgona—J. Ridge, Buchanan, Cuff, A. Ridge, King, Weiser, and Christenson. Culebra—Cushing, Tupper, Lindsay, Diehl, Baumer, Kramer, and Case.

The pool tournament closed February 25. Mr. F. D. Flynn took the first prize, having won all of the fourteen games. Mr. E. J. Vogel was second, having won twelve. Mr. D. H. Beaman was third, with eleven games. A first and second prize will be given.

EMPIRE.

An enthusiastic audience listened to Mr. Charles R. Drum's address on "An Honest Man," on Sunday night, March 6. It was unanimously voted to have him return on Thursday evening, March 10, to deliver his address "What About the Girl." At 12.30 o'clock, Thursday afternoon, Mr. Drum will speak at Gorgona shops.

Last Monday night, Mr. Basil Burwell of New York gave his "Picturetryp" entertainment on "Paris."

Tuesday night, March 1, Chaplain A. A. Nellis of Culebra, became leader of the Bible Discussion Club of the Empire Y. M. C. A. Twenty-five men have applied for admission to this club, which will meet every Tuesday night, from 7 to 8 o'clock, and is open to every man desiring to come in. The course to be followed is "Social Teachings of the Life of Christ."

The Empire Camera Club's weekly print competition, subject—"Native Life" for the week ending March 5, resulted in the awarding of the first prize for the prints submitted by Mr. Upson. Prints were submitted by all members who participated in the outing to Old Panama, and are now on exhibition in the lobby. A fine collection of prints adorns one of the reading room walls, which has been set aside for this purpose. The subjects for the next two weekly competitions are: March 9, "General," judged from the pictorial standpoint; March 16, "Genere," of pictures that "tell a story."

The Spanish class for beginners meets every Friday evening, from 7.10 to 8.10, followed by the advanced class, from 8.15 to 9.15.

The first of a series of lectures on Isthmian history, by Professor Carr, will be delivered on Friday evening of this week. Members, complimentary; others, 25 cents.

CRISTOBAL.

The regular meeting of the Camera Club was held on Monday evening, February 28, to discuss plans for outings and the use of the new dark room.

Arrangements have been completed to entertain the Culebra chess team at Cristobal in a match game on Saturday night, March 18. The Cristobal Chess Club, in order to stimulate a greater interest in the game of chess among the Young Men's Christian Associations of the Canal Zone, advocates the arrangement for a series of games to be played among the various associations. Chess players of the other Zone associations interested will please communicate with Mr. L. E. DuBois, Cristobal Chess Club, Cristobal, C. Z.

In the league indoor baseball game Saturday night, Cristobal defeated Empire; score, 19 to 7.

A bowling team composed of men from Indianapolis, Ind., will meet teams from any other state on the Y. M. C. A. alleys. Address, or telephone R. G. Goodman, secretary. The men of the Indianapolis team are: Bullard, Thomas, Parmelee, Neal, Patton, Carey, Carr and Glick. A New York team has been made up and will play the Indianapolis team a series of match games. The members of the New York team are: Herrington, Otman, Luce, Strong and Goodman.

The Bible class which is studying "Great Events in the Life of Christ," with Mr. Stuntz as teacher, meets every Wednesday night, from 7 to 8. The Bible class taught by Judge Brown, taking up "Social Significance of the Teachings of Jesus," meets every Thursday night, from 7 to 8.

The Cristobal Minstrels organized last week, and elected Mr. Pack president.

GORGONA.

On Sunday evening, February 27, Mr. Charles R. Drum gave his address, "An Honest Man," and on the night of March 4, "What About the Girl," before large audiences of men.

Thursday night, March 3, a musical and literary entertainment was held in the game room. Vocal solos were given by Miss Anderson and Mrs. Pierson, and a piano solo by Mr. Reinhold. These numbers were followed by a debate on the subject, "Resolved that it is more advantageous to be a tall man than a short man." Messrs. Beetham and Irwin took the affirmative, and Messrs. Swanson and Whipple, the negative.

An illustrated lecture and moving picture entertainment on "Paris and Versailles," will be given on Monday night, March 14, by Mr. Basil Burwell of New York.

Arrangements have been completed for a smoker to be given on Friday night of this week. The entertainment committee, composed of Messrs. Emery, Wright, and Hayes, have outlined a very interesting program. The men of the town are cordially invited to be present.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, March 5, 1910.

	Stations.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft..	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Feb. 27.....	126.9	94.2	47.7	4.8	1.6	1.0
Monday, Feb. 28....	126.8	94.0	47.5	4.3	1.3	0.8
Tuesday, Mar. 1 ...	126.6	93.9	47.4	4.0	1.4	1.0
Wed'esday, Mar. 2.	126.4	93.8	47.3	3.9	1.3	0.8
Thursday, Mar. 3..	126.3	93.8	47.2	3.7	1.3	0.8
Friday, Mar. 4.....	126.4	93.7	47.2	3.6	1.3	0.8
Saturday, Mar. 5...	127.0	94.2	47.6	3.9	1.2	0.8

BASEBALL.

ISTHMIAN LEAGUE.

RESULTS OF GAMES, MARCH 6.

Empire, 7; Ancon, 6.
Gorgona, 8; Marines, 4.

STANDING OF CLUBS.

	P.	W.	L.	Pc.		P.	W.	L.	Pc.
Empire....	15	11	4	.734	Ancon......	15	6	9	.400
Gorgona...	16	11	5	.687	Marines....	17	3	14	.177

SCHEDULE FOR MARCH 13.

Ancon at Gorgona.
Marines at Empire.

Ancon.	AB.	H.	PO.	A.	E
Smith, 1b.....	3	1	14	1	1
Hunter, cf....	4	1	3	0	0
Keller, lf......	5	0	0	0	0
Drennan, rf...	4	1	2	0	0
Pearman, 3b..	5	1	4	5	1
Tinsley, ss....	5	3	1	1	0
Snyder, 2b....	4	2	1	2	0
Frampton, c..	5	1	6	1	0
Nygren, p....	4	0	0	5	0
Totals......	39	10	31*	15	2

Empire.	AB.	H.	PO.	A.	E
Bryan, 3b.....	6	0	1	3	2
Dixon, ss.....	5	2	5	2	0
S. Fluh'ty, p, 2b	4	2	1	4	1
Bell, 1b.......	3	2	9	0	0
Christopher, rf	5	2	5	1	0
Moore, c.......	5	1	9	1	1
E. Fluh'ty, lf..	3	0	2	0	0
Markley, 2b ..	0	0	1	0	1
Toone, 2b, cf..	3	0	0	2	0
Murphy, cf...	2	1	0	0	2
Marshall, p...	3	0	0	0	0
Totals.......	39	10	33	13	7

*Bryan out for interference.

Two out, when winning run was scored.

Ancon.............	0	3	1	1	0	0	1	0	0	0	0—6
Empire...........	0	0	4	0	2	0	0	0	0	0	1—7

Runs—Ancon: Keller, Drennan, Pearman, Tinsley (2), Nygren; Empire: Dixon, S. Fluharty (2), Bell(2), Murphy, Marshall. Runs earned—Empire, 6. Two base hits—Drennan, Tinsley, Frampton. Home runs—Bell, 2. Sacrifice hits—Smith, Hunter, E. Fluharty. Stolen bases—Bell, Christopher, Toone, Murphy, Marshall, Smith, Keller (2), Nygren, Dixon(3), S. Fluharty (3). Bases on balls—Off Fluharty, 2; off Marshall, 2; off Nygren, 4. Struck out—By Fluharty, 3; by Marshall, 5; by Nygren, 5. Hit by pitcher—By Marshall—Nygren; by Nygren—Dixon, S. Fluharty, Bell. Left on bases—Ancon, 7; Empire, 8. Double plays—S. Fluharty to Dixon to Bell. Umpire—Bayne, Time of game—2.10. Scorer—J. B. Burke.

Forfeited Game Does Not Count.

The executive committee of the Isthmian League has decided that Gorgona is not entitled to the forfeited game claimed because of Ancon's failure to appear in time for a double header on February 20. The game has been counted as won by the Gorgona team in the standing of clubs as published in The Canal Record, and the correction has been made in this issue.

Gorgona.	AB.	H.	PO.	A.	E.
Clements, cf..	3	1	4	1	0
Magee, lf.....	4	3	3	0	2
Barney, c.....	3	1	3	0	0
Wright, 1b....	4	3	7	1	0
Heltemes, rf..	3	1	2	1	0
Ridge, ss......	4	2	1	6	0
Emery, 3b....	4	0	1	2	0
Case, 2b.......	4	1	4	1	1
Massen, p....	4	1	2	0	0
Totals......	33	13	27	12	3

Marines.	AB.	H.	PO.	A.	E
Todd, rf......	4	2	4	0	1
Scarff, ss......	5	1	0	1	1
O'Brien, 2b...	4	1	2	0	0
Snyder, cf....	4	2	1	1	0
Lubomski, lf..	4	1	1	0	0
Burke, 1b.....	4	2	7	0	0
Heinz, p......	0	0	0	0	0
Munsen, p....	4	2	0	4	0
Conway, c....	3	0	7	1	0
Volman, 3b...	4	1	2	1	0
Totals.......	36	12	24	8	2

Gorgona................	4	0	2	2	0	0	0	0	x—8
Marines................	0	1	0	0	3	0	0	0	0—4

Runs—Gorgona: Clements (2), Magee (2), Barney, Wright, Heltemes, Massen; Marines; Todd, Scarff, O'Brien, Snyder. Runs earned—Gorgona, 6; Marines, 3. Two base hits—Wright, Magee (2) Barney, Ridge, Todd, Scarff, Lubomski. Sacrifice hits—Barney, Heltemes. Bases on balls—Off Massen, 2; off Heinz, 1. Struck out—By Massen, 2; by Munsen, 6. Left on bases—Gorgona, 4; Marines, 7. Double plays—Emery to Ridge to Wright; Heltemes to Emery; Volman unassisted. Umpire—Foster. Time of game—1.40. Scorer—D. G. Hayes.

ATLANTIC LEAGUE.

RESULTS OF GAMES, MARCH 6.

Commissary-Subsistence, 9; Colon, 4.
Civil Administration, 4; Panama Railroad, 2.

STANDING OF CLUBS.

	P.	W.	L.	Pc.		P.	W.	L.	Pc.
Com-Sub...	8	7	1	.875	Civ. Adm..	7	3	4	.428
P. R. R....	8	4	4	.500	Colon	7	1	6	.142

SCHEDULE FOR MARCH 13.

Commissary-Subsistence vs. Panama Railroad.

Colon.	AB.	H.	PO.	A.	E
Weber, cf.....	3	1	1	0	0
Jeffries, 2b....	2	0	2	1	2
Odea, 2b......	1	0	0	0	2
Herring, c....	4	1	4	1	0
Cleary, 3b....	4	1	0	0	1
Kenney, 1b...	2	0	8	0	0
Morton, ss....	2	1	1	3	1
Calvert, lf	3	0	1	0	1
Souders, rf....	2	1	0	0	0
Stevens, rf....	1	0	1	0	0
Bailey, p......	3	0	0	4	1
Totals	27	5	18	9	8

C.-S.	AB.	H.	PO.	A.	E
Smith, 3b.....	4	0	1	1	1
McCormick, lf	4	2	0	0	0
Payne, 2b.....	4	0	3	0	0
Curtis, ss.....	3	1	1	5	1
Coffin, 1b.....	2	1	7	0	1
Lindberg, cf..	4	3	1	0	0
Beard, rf......	4	2	0	0	0
McCusty, c....	4	0	8	2	0
Simmons, p..	3	1	2	4	1
Totals.......	32	10	21	10	4

Colon.........................	0	0	0	3	1	0	0—4
Commissary-Subsistence......	0	1	0	3	2	3	x—9

Runs—Colon: Weber, Herring, Kenney, Morton. C.-S.: McCormick, Payne, Curtis (3), Lindberg (2), Beard, Simmons. Runs earned—C.-S., 1. Two base hits—Lindberg, Simmons. Three base hit—McCormick. Sacrifice hit—Coffin. First base on errors—C.-S., 4; Colon, 2. Stolen bases—McCormick, Curtis, Herring. Bases on balls—Off Simmons, 4; off Bailey, 2. Struck out—By Simmons, 7; by Bailey, 4. Hit by pitcher—Odea. Left on bases—C.-S., 8; Colon, 7. Passed balls—Herring (2). Umpire—Rohr. Time of game—1.40. Scorer—Rennard.

C. A.	AB.	H.	PO.	A.	E
Morrell, lf....	3	1	3	0	0
Farrar, cf.....	1	0	0	0	0
Reise, ss	3	1	0	2	0
Fleichman, 3b.	3	0	1	0	0
Ellington, 1b.	2	0	9	0	0
Bath, 2b......	2	1	1	4	1
Rex, rf........	2	1	0	0	0
Earle, c.......	3	0	7	2	0
Edwards, p...	3	1	0	2	0
Totals	22	5	21	10	1

P. R. R.	AB.	H.	PO.	A.	E.
Wheeler, ss, 2b	3	0	4	0	1
Bryan, lf......	3	1	0	1	0
McGinnis, cf.	3	1	0	0	0
Herring, 3b...	2	2	0	0	2
Lewis, c	1	0	12	5	0
Judd, 1b......	3	0	3	0	0
Bradley, 2b, rf.	3	1	2	0	1
Heberling, rf.	1	0	0	0	0
Dockery, ss,	2	0	0	0	0
Grund, p......	2	0	0	3	0
Woods........	1	0	0	0	0
Totals.......	24	5	21	9	4

Civil Adminstration...........	0	0	1	0	0	3	0—4
Panama Railroad..............	0	0	0	1	0	1	0—2

Runs—C. A.: Morrell, Reise, Ellington, Rex. P. R. R.: Herring (2.) Runs earned—P. R. R., 1. Two base hits—Bryan, Herring. Three base hit—Herring. Sacrifice hit—Farrar. Sacrifice flies—Lewis (2). Stolen bases—Reise (2), Bath, Dockery. Bases on balls—Off Grund, 4. Struck out—By Grund, 7; by Edwards, 5. Hit by pitcher—Wheeler, Herring, Rex. Left on bases—C. A., 3; P. R. R., 5. First base on errors—C. A., 3; P. R. R., 1. Umpire—Rohr. Time of game 1.25. Scorer—Rennard.

WEATHER CONDITIONS, CANAL ZONE, FEBRUARY, 1910.

Stations.	Press're (reduc'd to mean of 24 hours.)	Temperature.					Mean relative humidity.	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches.	Station average per month.	Number of rainy days.	Total movement (in miles.)	Prevailing direction.	Max. velocity (in miles.)	Direction.	Date.
Cristobal.............	29.897	77.8	82	21	71	3	85	3.58	1.45	17	10.279	N.E.	36	N.E.	14
Culebra	29.886	77.5	90	28	67	2	87	0.93	0.56	9	6,953	N.W.	33	N.	14
Ancon................	29.872	79.6	92	21	67	11	86	0 43	0.76	8	6,681	N.W.	25	N.	7

OFFICIAL CIRCULARS.

Funeral of President Obaldia.

CULEBRA, C. Z., March 2, 1910.

CIRCULAR NO. 312:

During the funeral of President Obaldía, to be held at five o'clock this afternoon, as a mark of respect to his memory and to the Republic of Panama, all work will be suspended for ten minutes, commencing at 4.55 p. m.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission,
President, Panama Railroad Company.

Time Vouchers for Laborers Who Quit Work.

CULEBRA, C. Z., March 4, 1910.

HEADS OF DEPARTMENTS AND DIVISIONS:

Complaint is frequently made by silver employes, who have been discharged, or are voluntarily leaving the service, that they are unable to get time vouchers for the pay that is due them. The Examiner of Accounts advises that:

"The general rule regarding the issue of time vouchers to silver employes is that they may be issued when they quit for the purpose of leaving the Isthmus, or are discharged. The rule has been considered as permissive, because of the extra work involved in issuing time vouchers in the divisions, and it has always been considered that the divisions should decide whether a silver man is entitled to time voucher or not. It would not do to give a man a time voucher when he voluntarily quits, because it is known from evidence that a large number would quit two or three times a month in order to draw their pay, and then go to work in another gang. The same practice has been followed in the case of laborers discharged without objections to reemployment. Such men, unless they intend to leave the Isthmus, are required to wait and receive pay receipt after the end of the month, as they frequently go to work again in the same division, or in another division. When men state that they are going to leave the Isthmus, it is the practice for timekeepers to inquire as to the ship on which they intend to leave and to tell them, if they are to sail from Colon, that their time vouchers will be sent to the paymaster at Cristobal for payment. This is done to test the accuracy of their statement that they intend to leave the Isthmus, and it frequently results in a man acknowledging that he does not intend to go."

The practice relative to the issue of time vouchers to silver employes, which is outlined in the preceding paragraph, has my approval. At the same time timekeepers should not abuse their discretionary power and the general rule should be relaxed in any case in which it appears that injustice or serious inconvenience would result to the employe if a time voucher was not issued. Silver employes should be treated with exact justice, and should be made to feel that they are perfectly secure in the rights and privileges to which they are entitled under the rules. It has been reported to me:

"It frequently happens in different timekeeping offices on the Isthmus that colored laborers do not receive the attention they are entitled to when calling at offices where the timekeeping force is very busy. In many cases they are sent away without attention and often required to come back two or three times before they can secure what they are entitled to, such as the delivery of coupon books, time vouchers, pay receipts, etc."

Wherever this tendency to neglect the necessary business of silver employes exists, it should be corrected.

GEO. W. GOETHALS, *Chairman.*

Electric Current for Lights Only.

CULEBRA, C. Z., March 1, 1910.

CIRCULAR NO. 311:

Electric current is furnished employes' quarters for electric lights only, and the use of electric current for heating, cooking, power, etc., in connection with devices purchased and connected up by the occupants of Commission quarters, is not approved.

A list of employes, who have purchased and are using such devices has been made, together with an estimate of the cost of the current thus used.

Employes, who have already purchased or acquired devices, which have been listed in the recent inventory taken, may continue to use these devices with the understanding that they will be required to pay for all current used at rates which will be established. They will not be permitted to use any other electric apparatus of this character which they may subsequently purchase, and no other employe, present or future, will be permitted to use any apparatus of this character in Commission quarters on account of danger from fire to the building and contents, which has been proved in several instances of late.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Hunting Permit Applications.

Any person desiring to secure a hunting permit, or license to have or use a firearm for any proper purpose, in making application to the Treasurer of the Canal Zone, must give his name in full, place of residence, house number, occupation, and if employed by the Panama railroad, or the Isthmian Canal Commission, to so state, together with his metal check number.

All applications must be endorsed by two (2) reputable taxpayers, who will certify that the applicant is personally known to them, and that such a license may be issued to him with safety and propriety.

EDGAR P. BECK,
Treasurer of Canal Zone.

Price of Eggs Reduced.

The price of eggs which was quoted at 34 cents per dozen in the Commissary list published in THE CANAL RECORD of February 23, has been reduced to 31 cents per dozen. Otherwise, there are no changes in the list appearing on that date.

Supplies for Canal Work.

The following steamers, with supplies for the Isthmian Canal Commission, arrived at the ports of Cristobal and Colon, during the week ending March 5, 1910:

Nile, February 27, from New York, with 12 shafts for Pacific Division; 9 sacks forms for Director of Posts.

Saltwell, March 1, from Baltimore, with 78 tons bars and plates, 144 tons B. S. pipe, 16,326 cases dynamite, 100 tons blacksmith coal, 30 tons bolts, etc., 100 kegs wire nails, and 20 kitchen sinks for stock; 4 tons valves, etc. for Atlantic and Pacific Divisions; 10 crates and 1 bale rugs and furniture for Porto Bello recreation hall; 28 crates chairs and desks for Gatun Y. M. C. A.; 1,300 car wheels for Gorgona shops; 5 tanks for Pacific Division; 450 tons structural material for Gatun and Miraflores Locks; 453 tons material for hydraulic dredging plant, Pacific Division; 26 cases pumps for Atlantic Division.

E. Russ, March 1, from Mobile, with 80,040 feet Y. P. flooring, 16,498 cross-ties, and 75 pieces piling for stock.

Sarnia, March 1, from New York, with 200 drums calcium carbide for the Atlantic Division at Porto Bello; 70 cases putty for stock.

Panama, March 1, from New York, with 36 tons beams, plates and bars, 23 tons angles, wire and nails, 50 cases window glass, 8½ tons steel angles, 17 tons bolts and nuts, and 22 tons rivets and nuts for stock; 67 packages electrical material for Atlantic Division, 1 coaling crane for Gorgona; 40 rolls wire netting for Pacific Division; 49 barrels alcohol for Sanitary Department; and a miscellaneous cargo consisting of 1,678 packages, weighing 325 tons.

Atenas, March 3, from New Orleans, with 10,953 cross-ties, 501 switch ties, 22 barrels rosin, 167 cases candles, and 25 cases dynamo oil for stock; 70,492 feet Y. P. lumber for Pacific Division; 4,209 feet W. O. lumber for Pacific Division; 44,569 feet Y. P. lumber for dry dock store stock; 92 tons steel bars for Atlantic Division, Colon improvements.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending March 16, 1910 (75th meridian time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	P. M.	P. M.	P. M.
March 10....	2.45	9.04	3.14	9.28	....
March 11....	3.33	9.49	3.58	10.13	....
March 12....	4.18	10.33	4.40	10.57	....
March 13....	5.00	11.16	5.22	11.38	....
March 14....	5.42	11.58	6.03	....	....
			A. M.		
March 15....	....	12.22	6.25	12.41	6.46
March 16....	....	1.08	7.09	1.27	7.31

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Proposals for Furnishing Plantain and Banana Plants.

Sealed proposals will be received at the office of the Depot Quartermaster, Mount Hope, C. Z., until 3 o'clock p. m., March 10, 1910, for the furnishing of 300 standard banana plants and 300 standard plantain plants. Samples of plants for sale must be submitted. Proposals should show the unit price per hundred, or dozen, and should be addressed to the Purchasing Agent on the Isthmus, Mount Hope, C. Z., plainly marked "Proposals for furnishing banana and plantain plants, to be opened March 10, 1910." At the time and place above specified the bids will be opened in the presence of attending bidders. The Government reserves the right to reject any or all bids.

C. NIXON,
Purchasing Agent on the Isthmus.

LOST—In forward day coach of train No. 27, on January 23, two U. S. A. mail packages, addressed to Mrs. H. C. Neville. Finder will please return to Culebra post office and receive reward.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Colon	P. R. R.	Monday	Mar. 7
Ancon	P. R. R.	Tuesday	Mar. 9
Advance	P. R. R.	Saturday	Mar. 12
Panama	P. R. R.	Friday	Mar. 18
Allianca	P. R. R.	Thursday	Mar. 24
Colon	P. R. R.	Thursday	Mar. 31

CRISTOBAL TO NEW YORK.

Allianca	P. R. R.	Sunday	Mar. 13
Colon	P. R. R.	Saturday	Mar. 19
Advance	P. R. R	Friday	Mar. 25
Panama	P. R. R.	Thursday	Mar. 31
Allianca	P. R. R.	Wednesday	Apr. 6
Colon	P. R. R.	Tuesday	Apr. 12

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

NEW YORK TO COLON.

Zacapa	U.F.C.	Thursday	Mar. 3
Tagus	R.-M.	Saturday	Mar. 5
Almirante	U.F.C.	Thursday	Mar. 10
Prinz Aug. Wilhelm	H.-A.	Saturday	Mar. 12
Santa Marta	U.F.C.	Thursday	Mar. 17
Oruba	R.-M.	Saturday	Mar. 19
Metapan	U.F.C.	Thursday	Mar. 24
Prinz Joachim	H.-A.	Saturday	Mar. 26
Zacapa	U.F.C.	Thursday	Mar. 31
Magdalena	R.-M.	Saturday	Apr. 2
Prinz Aug. Wilhelm	H.-A.	Saturday	Apr. 9
Clyde	R.-M.	Saturday	Apr. 16
Prinz Joachim	H.-A.	Saturday	Apr. 23
Atrato	R.-M.	Saturday	Apr. 30

COLON TO NEW YORK.

Oruba	R.-M.	Wednesday	Mar. 9
Zacapa	U.F.C.	Sunday	Mar. 13
Prinz Joachim	H.-A.	Tuesday	Mar. 15
Almirante	U.F.C.	Sunday	Mar. 20
Magdalena	R.-M.	Wednesday	Mar. 23
Santa Marta	U.F.C.	Sunday	Mar. 27
Prinz Aug. Wilhelm	H.-A.	Tuesday	Mar. 29
Metapan	U.F.C.	Sunday	Apr. 3
Clyde	R.-M.	Wednesday	Apr. 6
Zacapa	U.F.C.	Sunday	Apr. 10
Prinz Joachim	H.-A.	Tuesday	Apr. 12
Thames	R.-M.	Wednesday	Apr. 20
Prinz Aug. Wilhelm	H.-A.	Tuesday	Apr. 26
Prinz Joachim	H.-A.	Tuesday	May 10

NEW ORLEANS TO COLON.

Turrialba	U.F.C.	Saturday	Mar. 5
Abangarez	U.F.C.	Saturday	Mar. 12
Atenas	U.F.C.	Saturday	Mar. 19

COLON TO NEW ORLEANS.

Turrialba	U F.C.	Tuesday	Mar. 15
Abangarez	U.F.C.	Tuesday	Mar. 22
Atenas	U.F.C.	Tuesday	Mar. 29

COLON TO BARBADOS, CALLING AT TRINIDAD.

Tagus	R.-M.	Tuesday	Mar. 15
Oruba	R.-M.	Tuesday	Mar. 29

The next sailings of the Leyland Line will be as follows: *Colonian* for New Orleans, via Kingston, Ja., on or about March 18.

Hamburg-American steamers leave Colon for New York, via Kingston, every other Tuesday at 10 a. m., and for Port Limon, Costa Rica, every other Wednesday at 2 p. m.

All Royal Mail steamers mentioned above leave early in the morning from Colon, via Kingston, Jamaica, for New York. All mail and passengers should be on board early on day of sailing.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The following vessels arrived at the port of Balboa during the week ending March 5:

Arrivals—March 1, *Huallaga*, from south ports; *City of Sydney* from San Francisco; March 2, *Ecuador*, from Guayaquil; *Limari*, from south ports; March 3, *Guardian*, (cable ship) from south.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, MARCH 16, 1910. No. 29.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications

THE CANAL RECORD

Ancon, Canal Zone,

Isthmus of Panama.

NOTES OF PROGRESS.

Canal Work in February.

The grand total of Canal excavation in February was 2,602,995 cubic yards, 228,934 cubic yards less than the total for January. Of the 2,602,995 cubic yards, 2,489,945 were charged to "work" excavation, and 113,050 to "plant." The dry excavation amounted to 1,770,086 cubic yards, and was principally by steam shovels. The dredges removed 832,909 cubic yards in addition to the amount pumped into Gatun Dam by suction dredges. The progress on the locks at Gatun and Pedro Miguel is referred to elsewhere in this issue.

In the Atlantic Division, the total excavation was 640,690 cubic yards, 68,559 less than in January. Of this total, 123,738 cubic yards were dry excavation, and the remainder was removed by the dredges in the Atlantic entrance.

The total excavation in the Ceutral Division was 1,546,267 cubic yards, 46,772 more than in January. Of the total in this division, 1,259,173 cubic yards were taken out of Culebra Cut, and the balance from the Chagres section, and the Obispo Diversion.

In the Pacific Division, the total excavation was 416,038 cubic yards, 207,147 less than in January. Of the February total, 280,591 cubic yards were removed from the Pacific entrance by dredges, and 100,081 from other parts of the work by steam shovels.

A detailed statement of work in the three divisions follows:

ATLANTIC DIVISION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, Dam and Spillway	123,738	....	123,738
Mindi	....	....	....
Total	123,738	....	123,738
Wet excavation—			
Atlantic entrance	493,448	23,504	516,952
Locks, Dam and Spillway	....	....	....
Total	493,448	23,504	516,952
Total wet and dry excavation	617,186	23,504	640,690

CENTRAL DIVISION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
All dry excavation—			
Culebra Cut	1,259,173	545	1,259,718
Chagres section	286,309	....	286,309
Obispo Diversion	....	240	240
Total	1,545,482	785	1,546,267

PACIFIC DIVISION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation—			
Locks, Dams and Spillways	36,602	52,945	89,547
Diversions	....	450	450
Prism, south of Pedro Miguel Locks	10,084	....	10,084
Total	46,686	53,395	100,081
Wet excavation—			
Pacific entrance	280,591	....	280,591
Miraflores Locks	....	....	....
Diversions	....	35,366	35,366
Total	280,591	35,366	315,957
Total wet and dry excavation	327,277	88,761	416,038

TOTAL CANAL EXCAVATION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation	1,715,906	54,180	1,770,086
Wet excavation	774,039	58,870	832,909
Total	2,489,945	113,050	2,602,995

Mean rainfall along Canal (twelve stations) 2.11 inches.

By "Work" Excavation is meant excavation actually made for one of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc.; that is, it represents material taken from the area to be occupied by the Canal, and constitutes excavation useful for the completed Canal.

By "Plant" Excavation is meant excavation outside of any of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc. It includes material necessary to be excavated for construction purposes only and is chargeable against the particular plant item for which it is performed, such as Prism, Diversions, Locks, etc.

DAM AND LOCK CONSTRUCTION.

MATERIAL.	Atlantic.	Pacific.	Total.
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Fill placed in dams	564,003	12,948	576,951
Concrete laid in dams and spillways	6,588	....	6,588
Concrete laid in locks	55,696	13,408	69,104

Experiments on Gatun Spillway Dam.

Experiments conducted at Gatun to show the probable effect of baffle piers, in checking the velocity of the water that flows over the concrete dam of the spillway of Gatun Dam and establishing a uniform flow through the spillway channel, have been concluded, and the results have been tabulated. An article giving the general features of the plans for the spillway dam was published in THE CANAL RECORD of September 8, 1909. The experiments were conducted by the spillway designing division of the Assistant Chief Engineer's Office.

The experiments were made with a model on a scale of ⅜ inch to a foot, the material used being concrete and wood. Water drained from the hydraulic fill in Gatun Dam, with the flow regulated by a by-pass and gates, so as to give any depth desired on the crest of the experimental dam, was used. All observations were taken with the gage reading elevation 85, corresponding to the normal level of Gatun Lake. The water was very muddy and silted up the lake above the experimental dam, so much so, that disturbances in the flow, far greater in proportion than are expected in the real lake, were caused. The amount of water flowing over the model was calculated by weir formula, and measurements of the cross section of the stream in the discharge channel were made at three stations, so that the mean depths and velocities could be readily obtained. Measurements were taken with all the baffles in place; with only the larger upstream baffles in place, and without baffles.

The results obtained were used in calculating the conditions that may be expected in the actual dam and spillway, and these correspond very closely with the calculations made previous to the experiments. The test without the baffles indicates that it would be unwise to omit them, because a great wave was formed in the channel below the dam; and at the sides, where the depth was small, very high velocities were observed. With only one row of baffles, there was more disturbance than with all in place. Both as to position of the baffles, and their effectiveness in destroying the velocity of the water, the experiments indicate that the proposed dam will accomplish the results desired from it.

The Work at Miraflores.

It is expected that steam shovel excavation in the upper lock at Miraflores will be completed within the next month. This will practically end all excavation by steam shovels in the Pacific Division, with the exception of the shovels at work below Pedro Miguel Locks, and those employed in loading rock at Ancon quarry, until the lower lock pit at Miraflores has been prepared for dry excavation. Only one shovel is at work in the upper lock at Miraflores, and this has been engaged in excavating for the east side wall. Other operations in progress in this lock consist of the removal of a small quantity of earth by crane from the south end, channeling for the lateral culverts, and the concreting and riprapping of the sides of the lock pit in places where the material is earth and liable to wash down during the rainy season. The method employed to guard against this contingency is to build a low concrete retaining wall on rock at the foot of the slope and to riprap the remainder of the bank, sloping it gradually to the top. The greater portion of the site of the lock walls is cut out of solid rock, especially toward the north end, and in these sections, no protective measures are necessary.

Considerable progress has been made in the preparation of the site for the berm cranes at Miraflores. At Pedro Miguel, the two berm cranes are located in the north forebay, but when they are transferred to Miraflores, one will be operated on each side of the locks. Grading for the site on the east bank has been finished, and part of

NOTES OF PROGRESS.

(*Continued.*)

the metal for the trackway laid and rolled. The storage trestles will extend along the sides of the locks at Miraflores, and will be 24 feet high, with a total length of 7,500 feet, affording a large amount of storage space. The east trestle was started on January 10, and up to February 10, when the work was temporarily suspended, piling had been driven in a section over 1,000 feet long. The dumping of crushed rock and sand from this trestle will probably begin as soon as its deck has been completed, track laid, and a sufficient surplus of material accumulated at the Pedro Miguel storage trestles.

When the two temporary concrete mixers, now in operation at the Pedro Miguel Locks, are relieved by the permanent mixers, they will be removed to the Miraflores site, where they will be set up again and used in furnishing concrete for the construction of the lateral culverts and floors. They will probably continue to be used until the work at Pedro Miguel has advanced to the point that will permit of the removal of a part of the crane equipment to Miraflores. The temporary mixers will be located on the edge of the north forebay, overlooking the lock pit, instead of one each on the east and west banks, as at Pedro Miguel. According to present plans, it is purposed to begin concrete construction at the Miraflores Locks about June 1, 1910.

Bids for Canal Excavation.

Bids for the excavation of a section of the Canal prism near Tabernilla, containing about 36,138 cubic yards, and a section near Bohio, containing about 166,272 cubic yards, were opened at the office of the Chief Quartermaster in Culebra, on March 1. An abstract of the seven proposals, which were received, follows:

BIDDERS.	SEC. A TABERNILLA.	SECTION B. BOHIO.			
	Price per cu. yd.	Price per cu. yd. flat rate.	Earth.	Soft rock.	Hard rock.
Chas. Alberts......	.30	.52	.42	.71	.89
B. B. Duncan......	.24½	.34⅛	.29	.35¼	.62¾
E. C. McFarland...	.21	.26	.21	.25	.30
R. B Stapleton.....	.28⅓	....	..	......	......
R. P. Dixon........	.24	.50	.40	.65	.80
George Forbes.....	.22½	....	......	......	......
Hebard & Lombard	.27	.445	.275	.47	.64

Mr. McFarland was the lowest bidder in both sections.

Iron Work and Concrete in Gatun Locks.

Three of the cylindrical valves in the center wall of Gatun Locks has been set, and the setting of two others is in progress. These valves will control the flow of water from the center culvert into the lateral culverts, under the lock floor. They will be operated by machinery 56 feet above the valve seat. The placing of the valve seat castings in the concrete is the most accurate piece of iron work yet done in the locks. Each casting is anchored into the concrete with steel rods; and four set screws, at the principal diameters of the seats and bearing on steel plates embedded in the concrete, permit of the greatest nicety of adjustment.

The last of the castings that form the 24 sockets, in which the wicket girders of the emergency dam will rest on the sill of the dam, was placed last week. Work has been begun on the first of the anchorages for the castings on which the horizontal truss of each dam will rest, and the bottom plate and first length of eye bars have been embedded in the concrete of the west side of the center wall. When the emergency dam is closed the total water pressure will be taken up by the gates, which rest on the wicket girders, and the reaction due to this pressure will in turn be taken up by the sill of the dam at the lower or bottom end, and at the upper end by the horizontal truss, which in turn is supported by castings anchored into the masonry.

The laying of concrete in the center wall has been begun, and concrete work is now in progress in all parts of the forebay and upper locks.

The following is a report of the concrete placed, by days of 12 hours, during the week ending March 12:

	Cubic Yards.
March 6 (Sunday)........................	314
March 7..................................	2,530
March 8..................................	2,190
March 9..................................	1,943
March 10.................................	2,184
March 11.................................	2,352
March 12.................................	1,932
Total....................................	13,445
Previously reported......................	240,066
Grand total..............................	253,511

During the week, 2,674 cubic yards of concrete were placed in the spillway of Gatun Dam.

Concrete Laying at Pedro Miguel.

The record of concrete laid, and of the amount of large rock placed in the concrete, at Pedro Miguel, during six days of eight hours, for the week ending March 12, follows:

	CUBIC YARDS.	
	Rock.	Concrete.
March 7............................	8	635
March 8............................	35	698
March 9............................	25	690
March 10...........................	10	593
March 11...........................	10	548
March 12...........................	00	384
Total..............................	88	3,548
Previously reported................	102	67,736½
Grand total........................	190	71,284½

Rock Crushing at Porto Bello.

A statement of the rock crushed at Porto Bello, by days, for the week ending March 12, follows:

	Cubic Yards.
March 7..................................	3,035
March 8..................................	2,717
March 9..................................	2,543
March 10.................................	2,686
March 11.................................	2,056
March 12.................................	2,934
Total....................................	15,951

Roadwork in Panama.

The Division of Public Works is engaged in repairing the thoroughfare in the city of Panama, formerly known as the old La Boca road, but which, under the renaming of the streets, became a continuation of B Street as far as the city cemetery. The section undergoing improvement extends from where the road intersects with Ancon Boulevard, to the Canal Zone boundary. The repairs consist principally in loosening up the old macadam, and giving the surface a new layer of crushed rock and broken brick, two or three inches thick. The broken brick is procured from a large pile which accumulated in the old Municipal Division's storage yard in Panama, when the street paving operations were in progress in 1905.

An extension of Las Sabanas road to the Juan Diaz River has been undertaken by the Panama Government. It will be of the same width, and practically of the same construction as the section already built.

Accident at Gatun Power House.

Two of the three armatures in the electric power plant at Gatun burned out on the afternoon of March 5. All the lock concrete plant and the relay pumps that are assisting on the hydraulic fill of Gatun Dam were stopped. In less than half an hour, the third unit was in operation, however, and the lock concrete and handling plant was at work again. In order that the single unit might not be overloaded, no attempt was made to resume with the relay pumps until the lock plant shut down for the night. This system of running the lock plant by day, and the relay pumps by night, was adhered to during the week in which only one unit was in operation.

Immediately after the accident, spare coils were brought from storage and the work of rewinding was begun. One of the burned units is now in operation, and the other will be within a few days. The cause of the accident is not known, but it is attributed to a short circuit set up between the bus bars. Each of the units consists of a 1500 k. w. generator operated by a steam turbine.

Ancon Hill Rock Crushers.

The rock crushing plant on Ancon Hill was in operation only five days of last week, having been shut down on Saturday to make some necessary adjustments to the distributing apparatus in the rock bin. The output, by days, for the five days of eight hours, ending March 11, was as follows:

	Carloads.
March 7..................................	196
March 8..................................	178
March 9..................................	191
March 10.................................	149
March 11.................................	181
Total....................................	895*

*Equivalent to about 8,950 cubic yards.

Fatal Shooting at Camp Bierd.

Louis Dennison, a white American seaman employed on Barge *No. 4* of the Atlantic Division sand and stone transportation fleet, shot and almost instantly killed a Jamaican dock employe named James Brown, at 3.25 p. m., on Friday, March 11, at Camp Bierd, Cristobal. The police investigation showed that Dennison had been drinking during the day, and that shortly before the above occurrence, he had some trouble with one of the American employes at the camp. He then went to the barge, where he had his quarters, secured a revolver, and upon returning to the camp, walked up to Brown and shot him. Dennison was taken into custody, and at his preliminary hearing was bound over to the Circuit Court on the charge of murder.

Suicide at Gatun.

Willis R. Cole, a locomotive engineer, residing at Gatun, committed suicide at 12.37 p. m., on Tuesday, March 15, by shooting himself in the mouth with a Colt .44 revolver. He had been despondent for some time, and on Tuesday morning told several of his friends he was going to make an end to himself, but his statements were not taken seriously. He was a married man.

CANAL MEDAL LIST.

The following is a list of American employes of the Isthmian Canal Commission, who completed two years' service on the Isthmus during the twelve months ending December 31, 1909, and for that reason are entitled to receive the Canal Medal. The date shown opposite each name is that from which medal service is reckoned.

The list is now published in order that it may be carefully checked by those interested. Any omissions, errors in the spelling of names, or in the dates from which medal service is reckoned, should be reported to the Assistant to the Chairman, at Culebra, for correction.

In numbering the medals the relative standing of employes, whose medal service is reckoned from the same date, will be determined by lot. The list will be continued in THE CANAL RECORD of March 23, 1910.

Name.	*Date.*
1907.	
Durfee, Oscar S	May 17
Gowan, William R	May 17
Hayes, Ernest E	May 17
Horner, Uriah H	May 17
Moore, Henry A	May 17
Moriarty, John H	May 17
Perry, Lewis E	May 17
Suedeker, Cartie C	May 17
Womack, Benjamin F	May 17
Williamson, Sydney B	May 17
Wuelper, Adolph F. C	May 17
Sasse, David	May 20
Houston, Robert S	May 21
Kelly, Frank	May 21
Sharpe, William D	May 21
Jerry, Carl R	May 22
Meacham, Franklin C	May 22
Brambach, Anna J	May 23
Butler, Sidney	May 23
Fulford, Rufus	May 23
Green, Eustace C	May 23
Kane, William H	May 23
Maher, John	May 23
Murphy, Edward M	May 23
Strock, James R	May 23
Valcke, William J	May 23
Schaff, Alfred	May 25
Stevens, Henry F	May 25
Medinger, Frank J	May 28
Schreiber, H. G. E	May 28
Jordan, John P	May 29
Burke, James B	May 30
Clements, John H	May 30
Daleen, Carl J	May 30
Engberson, Leo B	May 30
Fox, Egbert H	May 30
Freel, J. H	May 30
Hamlin, Frank T	May 30
Hill, Charles W	May 30
Howell, Robert	May 30
McIntyre, W. M	May 30
Medinger, F. O	May 30
Mills, E. C	May 30
Nolan, J. A	May 30
O'Day, William	May 30
Pearman, Fred E	May 30
Smith, Mark D	May 30
Stanton, J. M	May 30
Willman, A. E	May 30
Witty, A. E	May 30
LaRose, Joseph M	May 31
Boutty, James J	June 1
Petrikin, Malcolm C	June 2
Allison, Charlie M	June 3
Ardern, LeRoy H	June 3
Bain, Wallace C	June 3
Banks, Walter M	June 3
Boone, Edward L	June 3
Brown, T. R	June 3
Campbell, William S	June 3
Ellenwood, William E	June 3
Eppley, Calvin D	June 3
Fluharty, Scott	June 3
Hines, Henry J	June 3
Holzapfel, August F	June 3
Kozak, Otto	June 3
Lindsay, Courtenay T	June 3
Lyons, Samuel I	June 3
Mack, Agnes L	June 3
McGann, Henrietta F	June 3
Mutzabaugh, Frank W	June 3
Myers, Thomas J	June 3
Quinn, Patrick J	June 3
Schumacher, Henry A	June 3
Smith, Nello B	June 3
Standifer, Walter S	June 3
Varenkamp, Robert	June 3
Yocum, Thomas B	June 3
Evans, Joe A	June 4
Von der Lieth, The'dore R	June 4
Waterworth, Charles E	June 5
Flint, Frank B	June 6
Baughman, John E	June 7
Cox, Walter T	June 7
Walling, Wilbur E	June 7
Ashbaugh, Virgil W	June 8
Bass, David W	June 8
Benson, Maynard	June 8
Besley, R. Earl	June 8
Browning, M. M	June 8
Clifton, Guy L	June 8
Condon, Alma R	June 8
Danahy, Mary J	June 8
Everist, Alva C	June 8
Finch, Ernest V. L	June 8
Goolsby, Elbert M	June 8
Johnson, G. A	June 8
Knowlton, Carroll F	June 8
Maloney, Frank L	June 8
Martin, George W	June 8
Montgomery, Mary L	June 8
Roberts, Frank	June 8
Wood, John	June 8
Woodford, John L	June 8
Woodrome, John E	June 8
Wright, Wallace R	June 8
Holstead, Willis S	June 10
Brown, Maurice G	June 11
Foster, Clifford M	June 11
Anderson, Charles H	June 13
Bethauser, Charles W	June 13
Briggs, Charles B	June 13
Burnham, Allen M	June 13
Cornish, Lorenzo D	June 13
Hayes, Oscar E	June 13
Helms, John L	June 13
Mitchiell, Charles D	June 13
Morris, Charles L	June 13
Pike, Earl R	June 13
Robinson, William	June 13
Salander, Ora D	June 13
Schafer, Frank S	June 13
Tucker, Herman F	June 13
McIntyre, P. J	June 15
Stuert, Stephen B	June 16
Daley, James	June 17
Conlin, Carl	June 18
Davis, John I	June 19
Connelly, Louis S	June 20
Davis, Hugh W	June 20
Douglas, Mary L	June 20
Greening, Peter	June 20
Harrison, Samuel H	June 20
McCulloch, Albert P	June 20
Miller, Gertrude E	June 20
Pearson, Herbert	June 20
Pode, Stephen H	June 20
Rudy, Clyde K	June 20
Greenslade, George A	June 24
Deming, Walter W	June 25
Downes, William	June 25
Dubois, William	June 25
Fox, Edith I	June 25
Halloran, Edward P	June 25
McKay Hugh	June 25
Nelson, John F	June 25
Shelato, Sam	June 25
Shepard, Harry P	June 25
Boyd, John L	June 26
Bortin, Harry	June 29
Culter, Frederick A	June 29
Davis, John M	June 29
Erwin, Tella B	June 29
Ferris, Howard	June 29
Ford, William H	June 29
Hall, Quincy A	June 29
Kittell, Julius C	June 29
Lester, Henry J	June 29
McGillicuddy, Cornel's J	June 29
Marek, Joseph J	June 29
Parkis, Sydney W	June 29
Ruch, Omar J	June 29
Searle, Pearl L	June 29
Simmons, James A	June 29
Tuttle, Gene M	June 29
Wheeler, Robert W	June 29
Wheeler, William P	June 29
Agnew, James H	June 30
Beyer, Fred	June 30
Campbell, John B	June 30
Dempster, George R	June 30
Floyd, Horace J	June 30
Geddes, Joseph	June 30
Hepler, James M	June 30
Robertson, Robert R	June 30
Clements, Walter T	July 1
Girdner, Edgar R	July 1
Sneed, C. Dud	July 1
Goeman, Charles I	July 3
Kenealy, Deglin F	July 3
Barker, Mary C	July 5
Cook, James R	July 5
Copeland, William P	July 5
Davis, Edward	July 5
England, James N	July 5
Fullerton, Clarence B	July 5
Gibbs, Blanche	July 5
Grobe, William J	July 5
Williams, Clarence H	July 5
Zimmerman, Benjamin F	July 5
Eden, Herbert L	July 8
Fein, John L	July 8
Norman, Frank L	July 8
Benedict, William J	July 9
Crowell, Ralph N	July 9
Cutler, Ralph	July 9
Doolittle, Anna L	July 9
Dulsky, Ignatius A	July 9
Dykstra, Nicholas	July 9
Eidnier, Benjamin F	July 9
Erion, Christian M	July 9
Fisher, George W	July 9
Fitzpatrick, Charles C	July 9
Flaherty, Michael	July 9
Gustavson, Gustave E	July 9
Haldeman, Ezra P	July 9
Helmer, Joseph H	July 9
Hoffman, Carl P	July 9
Hunt, Emma	July 9
Levy, Conrad	July 9
McAndrews, William	July 9
Minor, Ernest B	July 9
Newbold, Geo. W. K	July 9
Silvey, Edward	July 9
Sorrell, Quinton	July 9
Stevens, William H	July 9
Stewart, Wooster B	July 9
Stone, Arthur C	July 9
Wharton, Richard P	July 9
Wheat, Edwin G	July 9
Whyde, Harvey E	July 9
Bower, Charles	July 11
Clancy, George G	July 11
Fenton, Horace P	July 12
Lasswell, Ida H	July 12
Tuttle, E. S	July 12
Short, J. H	July 13
Williner, Michael	July 13
Austin, Charles L	July 15
Van den Heurk, Carl L	July 15
Colegrove, Albert M	July 16
Crane, Robert W	July 16
Doyle, James	July 16
Earle, Julius C	July 16
Ellis, Albert	July 16
Fullman, William	July 16
Hallinan, Thomas	July 16
Hembling, Charles W	July 16
Herman, Lester E	July 16
Hicks, John	July 16
Hinman, Herbert D	July 16
Jenkins, George L	July 16
Junger, Theodore R	July 16
McKeever, Daniel J	July 16
Ohlson, Elmer F	July 16
Pearson, Robert H	July 16
Pullen, Eugene M	July 16
Quinn, Edd	July 16
Stevenson, William A	July 16
Stewart, Burt C	July 16
Wilson, John A	July 16
Jadwin, Edgar	July 18
Perrott, David G	July 18
Rudey, John H	July 18
Browning, Kent	July 21
Grant, John M	July 21
Sournin, Vladimir N	July 21
Woodson, Richard P., Jr	July 21
Jones, Sam	July 22
Olson, Birger F	July 22
Birnie, Joseph	July 23
James, Alfred R	July 23
May, William H	July 23
Noble, Robert E	July 23
Stroup, Alex R	July 23
Barry, John N., Jr	July 24
Brennan, Thomas H	July 24
Gaskill, Burt E	July 24
Holt, Xenophon D	July 24
Kratz, Oscar A	July 24
Long, Thomas H	July 24
McAleer, Emmett	July 24
Muenchow, Charles W	July 24
Rebbeke, Ernest A	July 24
Ballew, Thomas	July 26
Duffy, Albert H	July 26
Peppers, John	July 26
Young, James R	July 26
Herman, Thomas	July 27
Bayne, Clarence W	July 29
Humphreys, Benjamin L	July 29
Noland, Cuthbert P	July 29
Pronger, Norman W	July 29
Tebbs, Paul M	July 29
Bethea, James K	July 30
Brand, Charles	July 30
Brett, Homer	Aug. 1
Fleckstein, John L	Aug. 1
Namur, Brun	Aug. 1
Alexander, Albert E	Aug. 2
Anderson, Andrew	Aug. 2
Bianchi, Frank	Aug. 2
Black, John M	Aug. 2
Bonz, Thomas S	Aug. 2
Cole, Simon C	Aug. 2
Cole, Willis R	Aug. 2
Gamble, Robert M	Aug. 2
Ganser, John C	Aug. 2
Hall, Harry C	Aug. 2
Hallen, Ernest	Aug. 2
Harding, Chester	Aug. 2
Helliksen, Ludwig A	Aug. 2
Kelly, James A	Aug. 2
Lang, Edward	Aug. 2
McCarney, George	Aug. 2
Potwin, Robert	Aug. 2
Untermann, Louis	Aug. 3
Smith, Alfred E	Aug. 5
McNeill, James M	Aug. 6
Bentley, Margaret L	Aug. 7
Bishop, Joseph Bucklin	Aug. 7
Brown, George A	Aug. 7
Cate, Charles I	Aug. 7
Clingenpeel, Joseph H	Aug. 7
Coe, Robert	Aug. 7
Curry, James E	Aug. 7
Donahue, John V	Aug. 7
Forbes, Sherman G	Aug. 7
Gibbs, William H	Aug. 7
Laird, Clarence H	Aug. 7
Mason, Aaron O	Aug. 7
Morgan, David M	Aug. 7
Nilsen, Nils	Aug. 7
Powders, William G	Aug. 7
Scoville, Thomas J	Aug. 7
Shepard, Frederick K	Aug. 7
Shirley, James H	Aug. 7
Sill, Frederick DeV	Aug. 7
Swan, Hampton H	Aug. 7
Burrer, Charles B	Aug. 8
Hamilton, Vance	Aug. 8
Hyer, Leonard L	Aug. 8
Swain, Joe M	Aug. 8
Tew, Lewis H	Aug. 9
Byerts, Frank B	Aug. 12
DuPuy, James L	Aug. 12
Stumpf, William J	Aug. 12
Duncan, Charles C	Aug. 13
Heisey, Charles E	Aug. 13
Roos, Heinrich	Aug. 13
Brown, John F	Aug. 14
Dyer, Ephraim J	Aug. 14
Flynn, Francis D	Aug. 14
Hill, Donald E	Aug. 14
Judge, William J	Aug. 14
Sloan, Lewis	Aug. 14
Freeman, Samuel	Aug 15
Tull, Richard E	Aug. 15
Weller, Frank	Aug. 15
Bodle, Robert W	Aug. 16
Lasker, Frank	Aug. 16
McGuire, William	Aug. 16
Wagner, George	Aug. 17
Dunreske, John J	Aug. 18
Fessler, Frank G	Aug. 18
Hall, James A	Aug. 18
Kinder, Elmer	Aug. 18
Miller, Selby	Aug. 18
Mills, Charles P	Aug. 18
Shaffer, Carl E	Aug. 18
Short, Sarah P	Aug. 18
Siler, John E	Aug. 18
White, Roy M	Aug. 18
Woods, Walter R	Aug. 18
McFarlane, Thomas W	Aug. 19
Swan, Elizabeth	Aug. 22
Sweeney, Joseph H	Aug. 23
Wempe, Henry J	Aug. 23
Ivani, Leo	Aug. 24
James, Richard F	Aug. 24
Bartley, John J	Aug. 25
Bower, Vernon C	Aug. 25
Cash, John H	Aug. 25
Downes, John R	Aug. 25
Imhoff, Walter	Aug. 25
Nye, Ralph F	Aug. 25
Pratt, Joseph	Aug. 25
Thompson, Alexander	Aug. 25
Horn, William S	Aug. 27
Whittaker, J. C	Aug. 27
Baldwin, Richard G	Aug. 28
Bridwell, Edward M	Aug. 28
Fortney, Camden P	Aug. 28
Gosnell, Harry	Aug. 28
Graham, Robert	Aug. 28
Greene, William L	Aug. 28
Grundy, Charles P	Aug. 28
Hennigh, Belva	Aug. 28
Langley, Clarence E	Aug. 28
Reeves, Joseph H	Aug. 28
Saville, Caleb M	Aug. 28
McKenna, William	Aug. 29
Cassidy, James J	Aug. 30
Edwards, Howard F	Aug. 31
Hagan, Thomas B	Aug. 31
Woodward, Charles	Aug. 31
Eberenz, Alexander	Sept. 1
Amburg, Charles	Sept. 2
Badhorn, Harry M	Sept. 2
Bennyhoff, William F	Sept. 2
Bowman, Florence A	Sept. 2
Boylan, Harry H	Sept. 2
Dennison, Christy	Sept. 2
Fairall, Bertha M	Sept. 2
Fegan, Paul H	Sept. 2
Jackson, Clarence C	Sept. 2
Roberts, Thomas, Jr	Sept. 2
Thompson, William P	Sept. 2
Fahrbach, Fred	Sept. 3
Grant, William H	Sept. 3
Clark, Frank T	Sept. 4
Cooke, Mortimer M	Sept. 4
Kencke, Arthur	Sept. 4
Lucas, George C	Sept. 4
Williams, Charles R	Sept. 4
Harding, John L	Sept. 5
Walsh, John P	Sept. 5
McCrabbe, H. T	Sept. 6
Edwards, David T., Jr	Sept. 7
Kent, Thomas L	Sept. 7
McLaren, Albert S	Sept. 7
Nixon, Fred M	Sept. 7
Pougher, George W	Sept. 7
Ragsdale, Harry C	Sept. 7
Vanderslice, George J	Sept. 7
Wright, William W	Sept. 7
Johnson, Jul	Sept. 7
Keiley, Charley	Sept. 9
Forman, John H	Sept. 10
Alper, J	Sept. 11
Tall, Albert C	Sept. 11
Buckius, Walter H	Sept. 13
Chamberlain, Ralph E	Sept. 13
Chapman, Arthur J	Sept. 13
Conner, Lee J	Sept. 13
Davenport, Robert H	Sept. 13

RECORD OF CANAL WORK SINCE AMERICAN OCCUPATION.

MONTHLY TOTALS BY CUBIC YARDS OF EXCAVATION AND LOCK AND DAM CONSTRUCTION.

[*All figures are of work useful for the completed Canal.*]

DRY EXCAVATION.

CENTRAL DIVISION.

MONTHS.	CULEBRA SECTION.*							CHAGRES SECTION.**			
	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1907.	1908.	1909.	1910.
January		70,650	120,990	566,750	1,227,022	1,150,249	1,323,693		169,447	389,399	175,802
February		75,200	168,410	639,112	1,248,265	1,215,648	1,259,173		200,145	428,988	286,309
March		132,840	239,178	815,270	1,290,885	1,434,597			324,233	619,491	
April		126,749	213,177	879,527	1,242,574	1,274,356			329,483	508,410	
May	27,556	75,935	196,209	690,365	960,840	1,126,963			235,902	386,170	
June	32,551	76,905	212,623	624,586	1,134,032	1,242,134			322,145	275,900	
July	31,599	78,570	159,789	770,570	1,121,325	1,200,828			345,757	233,897	
August	35,056	49,210	244,823	786,866	1,173,800	1,173,370		2,900	366,810	231,543	
September	25,220	44,085	291,452	753,468	1,122,860	1,235,978		21,546	346,948	235,818	
October	19,695	52,940	327,009	834,499	1,160,101	1,302,901		25,627	424,911	221,409	
November	28,860	60,540	221,642	790,632	1,022,576	1,070,792		44,044	336,390	93,619	
December	42,935	70,630	307,689	1,025,485	1,210,046	1,152,022		98,652	383,948	105,044	
Totals	243.472	914,254	2.702,991	9.177.130	13.914.326	14.579.838	2,582,866	192.769	3.786,119	3,729,688	462,111

MONTHS.	ATLANTIC DIVISION.					PACIFIC DIVISION.					
	COLON (MINDI)†		GATUN LOCKS, DAM AND SPILLWAY.††			PEDRO MIGUEL LOCKS.‡			MIRAFLORES LOCKS, DAMS AND SPILLWAY.‡‡		
	1909.	1910.	1908.	1909.	1910.	1908.	1909.	1910.	1908.	1909.	1910.
January	45,664		292,155	102,690	125,011		83,726	27,320	7,203	61,202	31,579
February	46,046		282,797	95,031	123,738		58,242	21,752	39,046	53,689	14,850
March	70,713		374,598	90,051			95,624		73,194	51,417	
April	74,368		373,456	70,009			101,365		98,943	60,060	
May	71,407		266,747	52,786			57,523		73,023	47,588	
June	80,101		244,951	36,556		13.228	70,971		68,691	55,653	
July	82,378		213,359	39,058		22,648	77,503		104,369	50,999	
August	66,249		188,262	40,346		22.217	58,025		94,248	35,446	
September	61,437		145,990	49,945		28,833	48,825		90,923	31,803	
October	72,643		154,064	57,321		48,875	39,002		74,700	25,349	
November	42,009		118,278	63,452		55,401	20,207		52,930	18,644	
December			119,904	96,590		65,578	28,342		69,650	20,083	
Total	713.015		2,774,561	793,835	248,749	256,780	739,355	49,072	846,920	511,933	46,429

*Total to March 1, 1910, 44,114,877 cubic yards.

**Total to March 1, 1910, 8,170,687 cubic yards.

†Total to March 1, 1910, 1,476.821 cubic yards; in this total are included 172,851 cubic yards removed in 1907, and 590,955 cubic yards removed in 1908.

††Total to March 1, 1910, 5,183,952 cubic yards; in this total are included 26,628 cubic yards excavated October to December, 1906, and 1,340,179 cubic yards in 1907; there were also 38,425 cubic yards removed by dredges at Gatun Dam site in 1907.

‡Total to March 1, 1910, 1,045,207 cubic yards.

‡‡Total to March 1, 1910, 1,405,282 cubic yards; there were also 78,233 cubic yards excavated at Balboa locks and dams in 1907; 139,298 cubic yards at Cardenas Hill, March to December, 1908, and 10,084 cubic yards excavated in prism south of Pedro Miguel Locks in February, 1910.

WET EXCAVATION.

MONTHS.	ATLANTIC DIVISION.						PACIFIC DIVISION.						
	ATLANTIC ENTRANCE.§				GATUN LOCKS.		PACIFIC ENTRANCE.§§						Miraflores Locks.§§§
	1907.	1908.	1909.	1910.	1908.	1909.	1905.	1906.	1907.	1908.	1909.	1910.	1910.
January	111,100	490,701	521,050	510,055		97,043		95,940	94,710	460,250	469,529	516,945	
February	110,002	427,722	444,910	493,448		132,291		95,940	93,480	663,519	671,477	280,591	
March	84,145	546,886	461,208			141,838		116,820	92,319	783,281	865,696		
April	69,889	496,366	470,635			17,938		110,700	104,855	676,539	731,767		
May	133,847	564,386	315,370			52,011		112,340	122,157	530,466	720,753		
June	124,118	572,749	182,575			38,829	50,676	62,697	133,575	656,621	844,685		
July	109,922	625,497	348,451				41,533	98,400	108,338	696,170	733,181		
August	194,297	638.217	422,846				54,530	111,930	168,284	737,774	623,263		
September	403,842	624,776	410,574				114,308	105,780	153,975	750,080	662,976		
October	415,120	505,260	314,778				81,836	97,170	357,122	762,276	720,920		
November	422,797	570,832	457,889				71,176	92,988	365,423	609,089	627,791		
December	442,835	679,604	489,121		8,583		71,094	90,528	349,551	729,960	727,460		
Totals	2.621,914	6,742,996	4,839,407	1,003.503	8,583	479,950	485,153	1.191.233	2,143,789	8.056,025	8.399.498	797,536	

§Total to March 1, 1910, 16,635,285 cubic yards; in this total are included 399,820 cubic yards excavated in 1905, and 1,027,645 cubic yards in 1906.

§§Total to March 1, 1910, 21,073,234 cubic yards; there were also 172 cubic yards removed by steam shovels during October, 1908.

§§§Total to March 1, 1910, 309,647 cubic yards, all of which was taken out by dredge in 1909.

CONCRETE IN LOCKS AND DAMS.

MONTHS.	GATUN LOCKS.			PEDRO MIGUEL LOCKS.			MIRAFLORES LOCKS.	
	1909.	1910.	1911.	1909.	1910.	1911.	1909.	1910.
January		54,136			16,273			
February		55,696			13,218			146
March								
April								
May								
June								
July							28	
August	1,298						74	
Sept	12,294			2,370				
October	29,378			8,310				
Nov'mber	30,270			10,169				
December	42,832			13,007				
Total	116,072	109,832		33,856	29,491		102	146

From March 17, 1909, to March 1, 1910, there were placed in the Spillway of Gatun Dam 60,185 cubic yards of concrete, including 6,588 cubic yards placed in February, 1910; in Miraflores Dam there were placed 321 cubic yards up to March 1, 1910.

FILL PLACED IN DAMS.

MONTHS.	GATUN.*		PEDRO MIGUEL.†	MIRAFLORES.‡	
	1910.		1910.	1910.	
	Wet.	Dry.	Dry.	Wet.	Dry.
January	178,254	237,801			28,151
February	292,215	271,788	11,510		1,438
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
Total	470,469	509,589	11,510		29,589

*Dry fill begun in January, 1907, and 2,096,477 cubic yards of wet, and 2,405,890 cubic yards of dry fill were placed in 1907, 1908 and 1909.

†170,166 cubic yards placed in dams up to December, 1909, inclusive.

‡138,587 cubic yards of wet fill and 472,091 cubic yards of dry fill were placed in dams up to December, 1909. There were also 75,420 cubic yards of backfill for locks placed up to February 28, 1910.

CANAL EXCAVATION TO DATE.

By French Companies		78,146,960
French excavation useful to present Canal		29,908,000
By Americans—		
Dry excavation	61,624,613	
Dredges	38,545,124	
Total		100,169,737
May 4 to December 31, 1904	243,472	
January 1 to December 31, 1905	1,799,227	
January 1 to December 31, 1906	4,948,497	
January 1 to December 31, 1907	15,765,290	
January 1 to December 31, 1908	37,116,735	
January 1 to December 31, 1909	35,096,166	
January 1 to February 28, 1910	5,200,350	

TOTALS BY DIVISIONS AND AMOUNT TO BE EXCAVATED.

DIVISIONS.	Amount excavated.		Remaining to be Excavated.	
Atlantic—				
Dry excavation	6,660,773	23,823,016	2,901,138	19,254,294
Dredges	17,162,243		16,353,156	
Central—				
Culebra Cut	44,114,877	52,285,564	33,927,418	37,508,929
All other points	8,170,687		3,581,511	
Pacific—				
Dry excavation	2,678,276	24,061,157	3,252,304	17,733,634
Dredges	21,382,881		14,481,330	
Grand totals		100,169,737		74,496,857

GORGONA SHOPS—FOUNDRY.

Repairs to Equipment, and Manufacturing for Locks—Night Work Necessary.

The output of Gorgona shops and foundry at present is greater than ever before, due to the concentration of manufacturing work and to the increased demands made by the construction of the locks. Twelve hundred men are employed, and a night force has been placed at work in the boiler and machine shops, because the floor space in those shops is inadequate to the amount of work that must be done. For the same reason night work will be begun in the blacksmith shop as soon as a sufficient force is recruited.

The bulk of the regular work is on locomotive and car repairs. In January, extensive repairs were made on 26 locomotives, and 205 cars were rebuilt; light repairs were made on 372 cars, and field repairs on 242 cars. At the outlying engine houses, under the jurisdiction of the mechanical division, 1,828 running repairs were made to locomotives, 2,782 light repairs to cars of all classes, and 8,759 field repairs to cars; and in addition, there were hostled 5,344 locomotives, 349 cranes, and 182 pile drivers and track shifters.

On account of the increased demand for gray iron castings, an extension 18 feet wide and 145 feet long, the full length of the building, has been made to the foundry, and additional room will be procured within the next few weeks by the removal of the brass foundry into the old pattern storage shed, which will be vacated when the new pattern shed is completed. About 3,000 square feet of floor space will be added to the foundry by these improvements. A concrete pit is to be constructed near the iron cupolas, in which molds for heavy castings will be made, for the purpose of protecting molds from water which seeps in from the river during floods. Near this pit, and swinging over it, will be erected a 10-ton jib crane on which ladles full of molten metal will be swung from the cupolas over the pit, and over other molds made near the pit.

The largest pieces of work on which the foundry is now engaged are castings for caisson seats in the locks, the orders to date amounting to 722,000 pounds; and castings to serve as linings for Stoney gate chambers in the locks, amounting to 1,791,000 pounds. It is expected that an order will be received in the near future for 1,244,000 pounds of counterweights for the regulating gates in the spillway of Gatun Dam. The output of gray iron castings in January was 466,830 pounds, for which a charge of 3 cents a pound is made. This output will be increased about 20 per cent, when the changes referred to above have been made. In the new brass foundry, there will be installed three oil burning melting furnaces. The output of brass and bronze castings in January was 31,304 pounds, for which a charge of 18 cents a pound is made. The prices quoted for brass and iron castings include the cost of supervision, plant charges, and all pattern shop work. There were 138 patterns made during the month.

The manufacture of collapsible steel forms for the locks at Gatun and the D Street sewer in Colon is the most elaborate work in progress in the boiler shop. Four of six 90-degree elbow forms, for the connections between the culverts in the floor of the locks and the main culverts in the center wall, have been completed. These forms are elliptical in section and are built on a 19-foot 3-inch center line radius, the elliptical diameters being 6½ feet and 8 feet. They are made of ¼-inch steel plate and weigh 13,000 pounds each. Delivery has been made of part of the order for 18 collapsible steel forms for the Colon sewer. Each of these forms is 10 feet long, circular at the bottom and rectangular at the top, and from 5 feet to 7 feet 10 inches in diameter. A number of collapsible steel manhole forms for the sewer are also being manufactured.

Work is also in progress in the boiler shop on 12 four-ton derricks, to be erected on the steel towers of the side wall forms at Gatun Locks, for handling the girders that are a part of the wall forms. Two derricks will be erected on each tower, and will be run by an electric hoist. The boom of each is a 46-foot stick, and the rest of the derrick is of structural steel. Other pieces of work in process of manufacture are pontoons and pipe for the 20-inch suction dredges, and automatic measuring tanks for the concrete plant at Gatun. The output of the boiler shop in January was 300 tons of structural steel in new work, in addition to repair work on various pieces of equipment.

The work in the smith shop is running a little larger than in January, when 150 tons of new forgings were made, in addition to repairs to various equipment, which formed about 20 per cent of the work. One thousand pounds of thermit were used for welds in iron castings, patching erosion holes in pump casings, and on locomotive castings. The shop is now equipped with 18 coal fires, a coke furnace used in the manufacture of locomotive driving springs and similar work, and nine furnaces using crude oil as fuel, two of which are designed for heavy forgings.

In the planing mill, 362,353 feet, board measure, of lumber were machined for repairs to cars and other equipment, in January, and in the machine shop work was done on 586 manufacturing orders, in addition to the maintenance of equipment and repair of shop machinery and tools. To handle the increased spreader repair work, the repair pit, in the part of the car shop that is reserved for these repairs, has been extended to 140 feet.

Utilizing Spoil from Culebra Cut.

In an article published in THE CANAL RECORD of April 7, 1909, on the utilization of spoil from various parts of the Canal, it was said: "Within the coming year the dump at Tabernilla will be gradually abandoned and new dumps will be opened along the relocated line of the Panama railroad, between Gamboa Bridge and Caimito." The reference was to spoil from Culebra Cut. Since that time the number of unloaders on the dumps at Tabernilla has been reduced to three, and the trains unloaded, to about 40 a day. Two unloaders have been transferred to the dumps on the relocation of the Panama railroad, where 30 trains are unloaded a day, the trains in each case being made up of 18 flat cars of 19 cubic yards rated capacity. Trains of 10-yard, side-dump cars are also sent to the relocated line. Fourteen or fifteen trains of steel dump cars, carrying about 5,600 cubic yards of spoil, are sent each day to Gatun Dam. All of this material is taken from Culebra Cut, between Bas Obispo and Empire.

About half of the material taken from the south end of the Cut, between Empire and Paraiso, is dumped into the breakwater at the Pacific entrance of the Canal. During the past few weeks several trains a day have been dumped on the relocated line, between Miraflores and Corozal, and more will be dumped as soon as the tracks on the operated line are completed west of the trestle, when the fill for the relocation will be broadened to the regular dumps at this place.

Sand Operations for February.

The shipments of sand from the dock at Balboa during February amounted to 27,400 cubic yards, or 3,787 cubic yards more than the amount delivered in January, which was the previous best record. The distribution was as follows:

DESTINATION.	No. of Cars.	Cu. Yds.
Atlantic Division	387	8,595
Pacific Division	1,547	18,585
Central Division	10	120
Gorgona Shops	4	100
Total	1,948	27,400

The sand unloading crane at the Balboa dock was in operation nearly the entire month and handled practically the total output. The force employed in the water transportation service is now divided into two shifts and frequently, four barges of sand, containing approximately 2,000 cubic yards, are delivered at the Balboa dock within 24 hours. The men employed on the dredge at Point Chamé work in broken watches, that is, they are on duty any time of the day or night when barges are on hand to be loaded.

A report has been received that the removal of sand from the ocean bed at Point Chamé has caused the tongue of land that projects into the water to show indications of sinking, thereby creating a source of possible danger to the native village, which is over a mile from where the dredge is operating. Upon investigation, the report was found to be incorrect.

Sand deliveries from the deposits at Nombre de Dios showed an increase over previous months, the total February output amounting to 18,400 cubic yards, as compared with 15,466 cubic yards for January. All of this sand was excavated by the two cranes stationed at Nombre de Dios, but it is expected that the reconstructed 12-inch suction dredge *Nombre* will be ready to relieve the cranes during the present month. New tracks laid during February, in connection with the development of the sand deposits, aggregated 1,800 linear feet.

Filling in Low Ground.

The long term convicts employed in building the West Culebra road have been set at work filling in a low place of several acres in extent, on the west side of the Panama railroad, opposite the Lirio planing mill, at Culebra. During the rainy season, the place is partly under water, and has been a source of expense in keeping it free from mosquito larvae. The drain through the locality has been faced with rock, and the ground on both sides of it will be elevated by filling in a foot or more of earth obtained from the old dumps nearby.

SOCIAL LIFE OF THE ZONE.

Women's Clubs, and Other Features.

The meeting of the home department of the Gatun Woman's Club was held at the residence of the chairman on Friday afternoon, March 11. A short business session preceded the program, during which committees were appointed to conduct the work of the organization. The question of completing the tennis court was given further consideration, and other local matters were taken up, in order that recommendations concerning them may be presented at the meeting of the Federation in April. Two addresses were made, one, by Mrs. L. Goodale, founder and first president of the Query Club at Cincinnati, who spoke on the woman's club movement in that city, and the other, by Miss E. Buehler of John Hopkins University, who spoke on the Mount Wilson Sanatorium for children at Baltimore. Specimens of hand sewing and fancy work were exhibited by the members, while refreshments, consisting of salad, home made bread, and coffee, were served by the committee. The next meeting of the club will be held on Friday, March 16. A committee has been appointed to make arrangements for holding this meeting in the new clubhouse. As March 25, is Good Friday, the meeting of the literary department will not be held. The open evening of the club will take place on Friday evening, April 8.

The Gorgona Woman's Club is preparing to hold a reception and social in honor of Mrs. T. S. Booz, wife of the Gorgona Y. M. C. A. secretary, who has recently arrived on the Isthmus. A musical program and other features will be provided. The woman's club has been asked to cooperate with the Y. M. C. A., in the preparations for a musical and literary entertainment to be held the first week in April.

The Pedro Miguel Woman's Club held a social meeting at the home of Mrs. Smith on Wednesday afternoon, March 9. The regular business meeting, with program, will be held at the clubroom on March 16.

The Gatun Sunshine Society will hold a sale for bachelors at the clubhouse on Thursday evening, March 17. In addition to useful articles, home made cakes, candies, and other refreshments will be on sale. The society will suspend its meetings for the season at the end of this month, not to be resumed until autumn.

The Masonic Club of Las Cascadas held a reception and entertainment on the evening of March 5, in honor of Mr. and Mrs. W. T. Drysdale, who have left the Isthmus to make their home in Delaware. Progressive games were played and a musical program was given. Mr. Drysdale was formerly president of the Masonic Club, and Mrs. Drysdale has been active in club and church work during her residence in Las Cascadas.

A reception to the ladies of Gatun was held at the new clubhouse on Tuesday afternoon, March 8. Mrs. William L. Sibert was chairman of the committee on arrangements. Invitations had been issued to all the resident women of Gatun, and the attendance was large. There was a program of musical numbers, followed by a series of tableaus, representing popular advertisements. Those taking part were: Madams Gaynor, Collins, Stevenson, Miss Osler, and the following children: Katherine Harding, Aliné Vreeland, Ruth Kiehl, Mary Sibert, Ruth Hopkins, Margaret and Francis Whitlock, Hope Stevenson, Leonora Stickel, Holden Durand, and Edwin Sibert. Assisting Mrs. Sibert, were Mrs. Whitlock, Mrs. Keator, Mrs. Collins, and Mrs. Forbes.

Church Work.

The Gorgona Christian Endeavor Society held an open air meeting on Sunday evening, March 13. Special music was provided, including several solos, and there were addresses by members. This is the second open air meeting held by the society.

The Christian League, in connection with the Union Church, Las Cascadas, held a social and entertainment at the chapel on Thursday evening, March 3. There was a musical program, and the Marine band from Camp Elliott played. Ice cream and cakes were served by the ladies of the congregation.

During Holy Week, March 21 to 26, services will be held in the Commission Chapel at Gatun, by the Rev. William H. Cross. A house for the chaplain is in course of construction, and Dr. Cross expects to remove from Colon to Gatun shortly after Easter.

Rev. A. A. Nellis will conduct services at the Ancon Hospital Protestant Chapel every Sunday afternoon at 4 o'clock. These services are undenominational in character, and the public is cordially invited.

Red Cross.

The local organizations of the Canal Zone Chapter of the American National Red Cross will, hereafter, be designated as sections. Three members of each section, one of whom is to be the chairman, will be elected at a public meeting, and will constitute the advisory committee. All business between a section and the Canal Zone Chapter will be conducted through this committee. The special duties of the advisory committee will be to recruit members; to recommend, after investigation, cases for relief, and to handle the finances of the section. The sections will, as far as possible. cooperate and recruit members from the ranks of local friendly societies. In this way, the Chapter may be able to take over all the relief work in the Canal Zone. Pursuant to a circular issued by the executive committee, with the approval of the chairman of the Chapter, meetings for the organization of the sections have been held at several places in the Zone during the past week.

Kindergarten Privileges.

Parents having children between the ages of four and six, for whom they would like kindergarten privileges after October 1, 1910, are requested to furnish the Superintendent of Schools, Ancon, C Z., with the name and exact date of birth of each child.

Ancon Administration Building Changes.

The office of the Chief Quarantine Officer, formerly in the south end of the ground floor of the Administration Building at Ancon, has been moved to the old Administration Building in Panama, and will occupy in future the same suite as the Health Office. The room vacated will be used by the Chief Sanitary Inspector.

The private offices of the Chief Sanitary Officer, and the Assistant Chief Sanitary Officer, on the first floor, has been moved from the east to the west side of the building.

The Superintendent of Schools has moved into the two offices located at the south end of the third floor, west of the patio, formerly occupied by the clerical force of the Chief of Police, whose office force is now quartered in the rooms vacated by the Superintendent of Schools.

The filing room of the Department of Civil Administration, situated at the south end of the second floor, east of the patio, has been considerably enlarged by the removal of several partition walls.

Canal Zone Medical Association.

The fourth annual meeting of the Canal Zone Medical Association was held at Ancon Hospital on Wednesday evening, March 9, when officers were elected for the ensuing year, as follows: President, Dr. J. C. Perry; vice-president, Dr. Lloyd Noland; secretary and treasurer, Dr. John W. Ross. A paper was read at the meeting by Dr. A. B. Herrick, on the study of fifty cases of abscess of the liver, and a number of unusual cases were presented from Dr. Deeks' clinic at Ancon Hospital.

Postal Business in February.

The principal items in the business of the Canal Zone post-offices in February, were as follows: Money orders issued, 17,228; payable in the United States, $330,957.93; payable in the Canal Zone, $96,413.09; payable in Martinique, $460; total, $427,831.02. Postal sales, $6,920, less 40 per cent of face value, $4,152.

Pacific Masonic Club.

At the regular meeting of the Pacific Masonic Club, to be held Saturday evening, March 19, action is to be taken concerning a matter of vital importance to the club. All members are urgently requested to be present. W. E. Roessner, *Secretary.*

Ancon, C. Z., March 14, 1910.

Yellow Fever Case at Quarantine.

Bernardo Lange, a French priest, 52 years of age, died of yellow fever at the quarantine station on Culebra Island, on Tuesday, March 8. He was a passenger on the steamship *Huallaga*, and came direct from Guayaquil, where he had been for ten days prior to embarking for Panama. On his arrival, on March 1, he was treated as a yellow fever suspect, and positive symptoms of the disease appeared shortly afterward. The case was strictly of a quarantine nature and bears no relation to the health of the Isthmus.

B. of L. E.

Subdivision No. 756, B. of L. E., will meet at Las Cascadas at 1.30 p. m., on Sunday, March 20. Harry H. Viall,
F. A. E.

Notice to Shovel and Dredgemen.

Local No. 19, I. B. of S. S. and D. M., will hold its regular monthly meeting on Sunday, March 20, at 2.30 p. m., in the I. C. C. lodge hall at Empire. Important business will be transacted, and all members are requested to attend.

S. I. Lyons,
Secretary and Treasurer.

Lost—One gold locket, initialed O. to E., between Gatun and Culebra. Finder please return to house 93, Culebra, and receive reward. Mace Thomas.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

A conference was held at the Y. M. C. A. on Tuesday evening, March 8, with Mr. Charles R. Drum. The purpose of this meeting was to consider the opportunities of doing more effective religious work. Out of this meeting, a Bible class was organized and will meet every Monday night from 7.15 to 7.45, with Rev. A. A. Nellis as leader.

The billiard tournament as it stands, is a tie between Tragsdorf, Bayne and Vogel, each having won five games. The results of the finals will be given in the next issue of THE CANAL RECORD.

EMPIRE.

On Friday night of last week, Professor Carr began a series of lectures on Isthmian history. Members are urged to take advantage of this opportunity to become familiar with the history of the Isthmus of Panama. Admission is free to members, and the hour is from 8.15 to 9.15, on Friday nights.

On Tuesday evening, March 22, at 8.15 o'clock, an entertainment will be given in the Y. M. C. A. hall, consisting of moving pictures and illustrated songs Members free; others 25 cents.

The following schedule of regular events at the Empire Y. M. C. A. is offered to members:

Mondays, 8 to 9 p. m.—Gymnasium class, led by Mr. Ludwig.

Tuesdays, 7 to 8 p. m.—Bible discussion club, under the leadership of Chaplain Nellis of Culebra.

Wednesdays, 7.30 p. m.—Regular meeting of the Camera club.

Thursdays, 8 to 9 p. m.—Gymnasium class, directed by Mr. Ludwig.

Fridays, 7.15 to 8.15 p. m.—Spanish class for beginners; 8.15 to 9.15 p. m., advanced Spanish class.

The final games in the Isthmian duck pin championship tournament will be rolled at Empire, Saturday night, March 19. Contestants please note.

In the local duck pin tournament, the Examiner-Disbursing Office team won from the Civil Administration team on March 7, by the following scores: Examiner-Disbursing Office, 421, 414, 463; Civil Administration, 418, 415, 455.

On Wednesday night, March 9, the Central Division team won from the Machine Shop team, as follows: Central Division, 422, 440, 429; Machine Shop, 424, 408, 426. The present standing of the teams is as follows:

	Played.	*Won.*	*Lost.*
Machine Shop	15	10	5
Central Division	15	7	8
Civil Administration	12	5	7
Examiner-Disbursing Office	12	5	7

Mr. Potter won high average, with 93.5 for 25 games; Mr. Gustavson came second, with 90.15, and Mr. Fishbaugh, third, with 89.2. Mr. Harry Cohen won the gold medal for the highest number of games won, 22 out of 28; Mr. Herring was second, with 21 out of 28, and Mr. Lippert, third, with 20 out of 28. Mr. Shaughnessy made the high score—122. This has been one of the most successful tournaments ever played on the Empire alleys, and the contest was very close, the first six men having a difference of only six points.

GORGONA.

A smoker was given last Saturday night to welcome the new physical director, Mr. Jess T. Hopkins. The following program was rendered: Overture, by the Gorgona orchestra; dancing, by Galiniski; ballad, by Wright, sketch, by Briggs; monologue, by White; "The Doctor Shop," Emery and company; selection, by a male quartet composed of Messrs. Wright, Hayes, Briggs, and Jones; musical number by Messrs. Angel, Denst, Miller, and Williams, and a tumbling act, by Evans and Epping. During the intermission, Mr. Hopkins was presented and addressed the audience. Sandwiches and coffee were served.

Mr. Basil Burwell gave a lecture on Paris and Versailles, illustrated with lantern slides, before a good-sized audience, on Monday night of this week.

GATUN.

The events of the second week of the celebration of the opening of the Gatun clubhouse were as follows:

Monday evening, March 7—Gymnasium exhibition and indoor baseball game, between Gatun and a team from Culebra. Gatun won by a score of 23 to 14.

Thursday evening, March 10—Pool and billiard players, and bowling teams from Culebra, Empire and Cristobal visited the Gatun association and some very close games were played. Cristobal won in billiards, Culebra at pool, and Empire won two out of three games of big pins from the Gatun team.

Friday night, March 11—Juvenile contest, which was won by the Gatun boys. The Cristobal boys won the basketball game, with a score of 8 to 6.

The basketball game between the regular team from Cristobal, and the Gatun team was also won by Cristobal, 22 to 14.

The celebration ended Saturday night, March 12, with an evening of literary and musical entertainment. The membership of the club has already passed the 200 mark.

GENERAL NOTES.

The financial report for the month of February, for the Division of Clubhouses, is as follows:

Receipts for the month	$4,397.69
Disbursements for the month	3,882.10
Deposited with treasurer	3,000.00
Balance on deposit, March 1	6,778.19
Cash on hand, March 1	1,522.31
Total balance	8,300.50
Estimated liabilities	2,750.00
Net balance	5,550.50

Band Concert.

The Isthmian Canal Commission Band will give a concert at Porto Bello, on Sunday, March 20, 1910, at 2 p. m. The program follows:

1 March—*In Storm and Sunshine*. ....Heed
2 Selection—*The Prince of Pilsen*............Luders
3 Waltz—*Love Sparks*....................Holzman
4 { *a* Popular Rag—*Russian Pony*..........Ramsay
{ *b* Two Step—*Mollie Lee*..................Morse
5 Song for Cornet—*Nobody Knows, Nobody Cares*..................Harris
(Harry A. Smith.)
6 Medley Selection—*Kerry Mills' Latest Songs*..................Schulz
Introducing—"Yes She Did," "Under the Chicken Tree," "I'm Tired of Living Without You," "Take Me Out for a Joy Ride," "Where Were You Last Night," "You'll Have to Ask Mother," "Pass Dat Possum," "When a Pal of Mine Steals a Girl of Mine," "The Longest Way 'Round is the Sweetest Way Home," "Lonesome," "Rag Time Dance," "Don't Be an Old Maid, Molly," "A Georgia Barn Dance," "We're Almost Home," and "Sun Bird."
7 Overture—*Hungarian Lustspiel*........Keler Bela
8 Intermezzo—*Flower Girl*..................Weurich
9 Ballet—*Flight of the Birds*..............Rice
10 March—*The New Colonial*....................Hall

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Gorgona, C Z., on Sunday, March 27, at 6 p. m.

Batting and Base-running Records in the Isthmian League.

The batting and base-running records of all players in the Isthmian League, who took part in five or more games, up to March 1, compiled by the official scorer, Mr. D. G. Hayes, will be found below. The fielding averages for the same period will appear in THE CANAL RECORD at a later date.

	G.	AB.	R.	BH.	AV.	SB.	SH.
Emery, Gorgona	15	59	10	23	.390	5	1
Massen, Gorgona	5	11	1	4	.364	0	1
Barney, Gorgona	15	64	16	23	.359	9	3
Christopher, Empire	11	40	6	14	.350	2	2
Herring, Gorgona	15	64	14	22	.344	9	1
Magee, Gorgona	15	57	15	19	.333	7	2
O'Brien, Marines	6	21	6	7	.330	2	0
Frampton, Ancon	7	25	3	8	.320	2	0
Wright, Gorgona	13	47	9	15	.319	2	4
Cole, Gorgona	11	44	8	14	.318	6	2
Snyder, Marines	13	47	5	14	.298	8	0
Clements, Gorgona	13	49	12	14	.286	9	1
Bell, Empire	14	46	12	13	.283	5	1
Bryan, Empire	11	43	7	12	.279	5	2
Dixon, Empire	10	42	9	11	.262	3	1
S. Fluharty, Empire	11	39	7	10	.256	7	3
Tinsley, Ancon	12	44	6	11	.250	6	2
Pearman, Ancon	12	44	6	11	.250	3	1
Hunter, Ancon	12	44	8	11	.250	3	2
Toone, Empire	7	21	4	5	.238	5	0
Lubomski, Marines	12	43	4	10	.233	6	1
Todd, Marines	6	13	2	3	.231	0	0
Burke, Marines	8	22	1	5	.227	2	1
Poltrino, Ancon	6	18	1	4	.222	3	0
Snyder, Ancon	8	27	7	6	.222	4	0
Yingling, Ancon	8	32	5	7	.219	3	0
E. Fluharty, Empire	12	42	3	9	.214	7	4
Nygren, Ancon	12	44	3	9	.205	0	4
Dougherty, Gorgona	15	59	12	12	.203	2	0
Smith, Ancon	12	45	9	9	.200	4	0
Moore, Empire	14	47	7	9	.191	4	7
Drennan, Ancon	6	11	2	2	.182	1	0
Munsen, Marines	13	39	0	7	.179	0	1
Scarff, Marines	11	45	5	8	.178	2	0
Keller, Ancon	11	45	4	8	.178	4	0
Volman, Marines	15	51	4	9	.177	3	0
Herring, Empire	6	17	2	3	.177	3	0
Murphy, Empire	14	37	5	6	.162	7	2
Maguire, Marines	13	50	7	8	.160	1	0
Hurrle, Marines	10	38	1	6	.158	1	3
Markley, Empire	8	26	4	4	.154	5	0
Case, Gorgona	15	53	5	7	.110	1	5
Ridge, Gorgona	5	12	3	1	.083	0	0
Marshall, Empire	6	16	1	1	.063	2	1
Heinz, Marines	9	30	2	1	.033	1	2
Conway, Marines	6	20	0	0	.000	0	0

BASEBALL.

ISTHMIAN LEAGUE.

RESULTS OF GAMES, MARCH 13.

Ancon, 7; Gorgona, 2.
Empire, 8; Marines, 6.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*
Empire	16	12	4	.750
Gorgona	17	11	6	.647
Ancon	16	7	9	.440
Marines	18	3	15	.166

SCHEDULE FOR MARCH 20.

Empire at Ancon.
Marines at Gorgona.

Gorgona.	AB.	H.	PO.	A.	E.
Clements, cf.	4	1	3	1	0
Magee, lf.	3	0	0	0	1
Barney, c.	4	1	5	3	0
Wright, 1b.	4	2	10	0	1
A. Ridge, ss.	4	0	1	2	4
J. Ridge, 2b.	4	2	0	1	0
Emery, 3b.	4	0	3	2	0
Case, p.	3	0	1	4	2
Heltemes, rf.	3	0	1	0	0
Totals	33	6	24	13	8

Ancon.	AB.	H.	PO.	A.	E
Pearman, 3b.	4	1	1	2	0
Drennan, cf.	4	0	2	1	0
Snyder, 2b.	4	2	1	3	1
Smith, c.	3	2	7	0	0
Hunter, ss.	5	1	3	3	0
Keller, lf.	4	3	2	0	1
Tinsley, p.	4	2	0	2	1
Nygren, 1b.	3	2	11	1	1
Frampton, rf.	4	2	0	0	0
Totals	35	15	27	12	4

Gorgona	0	0	1	0	0	1	0	0	0—2
Ancon	0	0	0	7	0	0	0	0	x—7

Runs—Gorgona: Clements, Barney; Ancon: Pearman, Drennan, Snyder, Hunter, Keller, Tinsley, Frampton. Runs earned—Gorgona, 1; Ancon, 3. Two base hit—Wright. Sacrifice hits—Magee, Snyder, Nygren Stolen bases—Barney, Snyder, Hunter, Keller, Tinsley, Nygren. Bases on balls—Off Case, 3. Struck out—By Case, 4; by Tinsley, 5. Hit by pitcher—By Case—Smith. Left on bases—Gorgona, 3, Ancon, 10. Double play—Drennan to Smith. Umpire—Irwin. Time of game—1.45. Scorer—J. K. Munroe.

Marines.	AB.	H.	PO.	A.	E
Scarff, 2b.	4	1	1	0	0
O'Brien, ss.	5	3	1	1	0
Snyder, cf.	5	1	0	0	0
Clements, lf.	5	0	0	0	0
Pearson, rf.	3	1	1	0	1
Conway, c.	4	1	8	4	2
Burke, 1b.	5	2	12	0	2
Munsen, p.	4	0	1	8	1
Volman, 3b.	4	2	0	0	0
*Jescke.	0	0	0	0	0
Totals	39	11	24	13	6

Empire.	AB.	H.	PO.	A.	E
Bryan, 3b.	5	0	2	3	2
Dixon, ss.	4	0	3	3	0
S. Fluh'ty, rf.	3	1	1	0	0
Bell, 1b.	4	2	4	0	3
Christopher, p	3	1	0	3	0
E. Fluh'ty, lf.	4	3	1	0	0
Markley, 2b	3	0	5	0	1
Murphy, cf.	3	2	3	0	0
Lyon, c.	2	0	7	2	2
Marshall, p.	0	0	0	0	0
Totals	31	9	26	11	8

*Batted for Pearson in ninth.
†O'Brien out, running out of base line.

Marines	0	0	2	0	0	0	1	3	0—6
Empire	0	0	0	5	3	0	0	0	x—8

Runs—Marines: Scarff, Conway, Munsen, Volman (3); Empire: S. Fluharty, Bell, Christopher (2), E. Fluharty (2), Markley, Murphy. Runs earned—Marines, 2; Empire, 2. Sacrifice hits—Scarff, Lyon. Stolen bases—E. Fluharty, Markley, Lyon, Christopher, Murphy, Conway, Volman, Bryan, S. Fluharty, Bell. Bases on balls—Off Munsen, 4; off Christopher, 1; off Marshall, 1. Struck out—By Munsen, 6; by Christopher, 4. Hit by pitcher—By Christopher—Conway; by Munsen—Christopher. Left on bases—Marines, 9; Empire, 5. Umpire—Foster. Time of game—1.50. Scorer—J. B. Burke.

ATLANTIC LEAGUE.

RESULT OF GAME, MARCH 13.

Commissary-Subsistence, 13; Panama Railroad, 2.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*
Com-Sub.	9	8	1	.889
P. R. R.	9	4	5	.445
Civ. Adm.	7	3	4	.428
Colon	7	1	6	.142

SCHEDULE FOR MARCH 20.

Colon vs. Civil Administration.

P. R. R.	AB	H.	PO.	A.	E.
Dougherty, 2b	3	0	2	0	1
Wheeler, ss.	2	0	1	5	4
Bryan, lf.	3	0	0	0	0
Herring, 3b.	4	0	1	4	2
McGinniss, cf	4	2	0	0	1
Lewis, c, p.	4	2	6	4	0
Fluharty, rf.	4	0	1	0	0
Heberling, 1b.	3	1	13	0	4
Grund, p.	3	0	0	3	2
Davis, c.	1	0	0	1	0
Totals	31	5	24	17	14

C.-S.	AB.	H.	PO.	A.	E
Smith, 3b.	4	1	3	3	1
McCormick, lf	5	1	0	0	0
Payne, 1b	5	1	9	0	1
Curtis, ss.	5	2	4	2	1
Muggleton, 2b	5	1	2	2	0
Coffin, cf.	5	2	0	0	0
Beard, rf.	5	0	0	0	0
McCusty, c.	3	0	8	3	0
Simmons, p.	3	0	1	4	0
Totals	40	8	27	14	3

Panama Railroad	0	1	0	0	0	0	0	0	1—2
Com.-Subsistence	4	0	1	0	3	0	3	2	x—13

Runs—P. R. R.: Herring, McGinness: C.-S.: McCormick (2), Payne (3), Curtis (2), Muggleton (3), Coffin (2). Beard. Runs earned—P. R. R., 1. Two base hits—Curtis, McGinniss Lewis. Sacrifice hit—McCusty. Passed balls—Davis (2). Stolen bases—McCormick, Payne (2), Curtis, Coffin, Herring, Dougherty (4), Wheeler Bases on balls—Off Simmons, 5; off Grund, 2. Struck out—By Simmons, 8; by Grund, 5. First base on errors—P. R. R., 3; C.-S., 11. Left on bases—P. R. R, 7; C.-S., 6. Double play—Simmons to Muggleton to Payne. Umpire—Rohr. Time of game—1.50. Scorer—Rennard.

LOST—Between the Cristobal hotel and police station, I. C. C. round check, No. 47235, attached to I. C. C. star check No. 47642. Finder please leave at Cristobal police station.

OFFICIAL CIRCULARS.

Acting Assistant to the Chairman.

CULEBRA, C. Z., March 11, 1910.

HEADS OF DEPARTMENTS AND DIVISIONS:

Effective this date, Mr. C. A. McIlvaine will act as Assistant to the Chairman during the absence of Mr. M. B. DePutron, on leave.

GEO. W. GOETHALS, *Chairman.*

Old Car Lumber for Disposal.

CULEBRA, C. Z., March 11, 1910.

HEADS OF DEPARTMENTS AND DIVISIONS:

About fifty carloads of old car lumber have been set out along the track at Juan Grande, which could be used for fuel, cribbing, and possibly for other purposes in connection with construction work. On account of the danger of this lumber catching on fire from sparks from passing locomotives, it is desired that it be disposed of as soon as possible.

Any inquiries in regard to this lumber should be made to Acting Master Mechanic Corcoran, Gorgona Shops.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Change at Colon Hospital.

ANCON, C. Z., March 14, 1910.

SPECIAL ORDER:

Surg. William H. Bell, U. S. N., is hereby directed to proceed to Colon Hospital and take charge of that institution, effective March 19, relieving Surg. James F. Leys, U. S. N., who has resigned to take effect at the close of business on March 18.

Surgeon Leys will arrange to turn over to Surgeon Bell all property for which he is responsible, and obtain Surgeon Bell's signature covering the transfer.

By direction of the Chief Sanitary Officer.

JOHN L. PHILLIPS,
Assistant Chief Sanitary Officer.

Muzzling of Dogs.

ANCON, C. Z., March 5, 1910.

Health Officer, Colon-Cristobal; Health Officer, Panama, and all Sanitary Inspectors:

SIR: By direction of the Chief Sanitary Officer, Ordinance published on February 17, 1909, requiring that all dogs in the Canal Zone running at large be muzzled, is hereby suspended until further notice.

JOHN L. PHILLIPS,
Assistant Chief Sanitary Officer.

Commissary Notice.

The Commissary price list published in THE CANAL RECORD of February 23 remains unchanged, with the exception of the item of eggs, which has been reduced to 31 cents per dozen, as noted in last week's issue.

Misdirected Letters

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., March 16, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Addison, Mrs. Mary E., care of Chas. Dole
Alexander, W. H.
Benney, Mrs. William
Briggle, H. E.
Brown, Earl H.
Cash, I. M.
Corbett, Warren
Craig, James G.
Disney, Wm. A.
Galatas, Louis
Graham, Clifford
Harrison, William
Higgins, Joseph H.
Higley, Chas.
Hope, T. E.
Howe, C. H. R.
Hughes, Mrs. Florence
Kane, Peter (3)
Kenison, Mrs. N.
Kerr, Charles Otis
Kindervater, Wm. H.
Lodo, Alfredo
Lyons, J. A.
Malone, C. D.
Montgomery, Robert
Nicholas, Fred C.
Payne, Mrs. F.
Post, T. M.
Schwartz, Henry
Tyler, John R.
White, Leslie
Wilson, H. W.
Zacharias, A. L.

Supplies for Canal Work.

The following steamers, with supplies for the Isthmian Canal Commission, arrived at the ports of Cristobal and Colon, during the week ending March 12, 1910:

Allianca, March 7, from New York, with 1,000 gallons insect exterminator, 12 cases drill parts, 11 cases lubricators, 14 tons steel bars, 705 bags bran, 10,000 gallons valve oil, 10,000 gallons car oil, 10,000 gallons engine oil, 325 cases lubricating grease, 25 tons bolts and nuts, 43 bales rubber hose, 10 tons wire rope, and 11 tons chain for stock; 24 packages drugs and medical supplies, 84 cases wine, 22 barrels whisky, and 1 life raft for Sanitary Department; 70,000 coupon books for Examiner of Accounts, Empire; 1 pipe-cutting and threading machine for Pacific Division; 21 cases electric fuses for Central Division; 3 cases electric fuses, 72 cases electrical material, 16 cases dredging sleeves, and 13 tons wire rope for Atlantic Division; and a miscellaneous cargo consisting of 478 tons, and 5,242 packages.

Alexandrian, March 8, from Liverpool, with 145 barrels carbolic acid for stock; 7 tons drums for Pacific Division.

Prinz Joachim, March 9, from New York, with 5 tons pipe-fittings for stock.

Turrialba, March 10, from New Orleans, with 1,807 cross-ties, 1,109 bales straw, 125 cases dynamo oil, 573 sacks cottonseed hulls and meal, 4 cases valves, 165 bales cotton waste, 24 packages switches, and 457,874 feet yellow pine lumber for stock; 16,000 feet yellow pine lumber for Pacific Division; and 26 tons drill steel for Atlantic Division.

Zacapa, March 11, from New York, with 14,400 pounds chloride of lime for stock; 3 cases machinery for hydraulic dredging plant, Miraflores; and 43 tons engines for Atlantic Division.

Rainfall, March 1 to 12, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	*T	5	*T
Balboa	.00	0	.00
Miraflores	.00	0	.00
Pedro Miguel	.00	0	.00
Rio Grande	.03	5	.03
Central Section—			
Culebra	.03	5	.04
Camacho	.03	6	.06
Empire	.08	5	.08
Gamboa	.03	6	.06
Alhajuela	.02	6	.04
El Vigia	.03	6	.03
Gorgona	.06	8	.11
San Pablo	.19	4	.33
Tabernilla	.27	5	.57
Bohio	.79	4	1.32
Atlantic Section—			
Gatun	.26	6	.70
Brazos Brook	59	5	1.36
Cristobal	.11	5	.32
Porto Bello	.76	5	1.33

*Trace.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, March 12, 1910.

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft..	129	92	46	0	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Mar. 6	126.7	94.1	47.6	4.4	1.5	1.1
Monday, Mar. 7	126.5	93.8	47.3	3.9	1.4	1.1
Tuesday, Mar. 8	126.4	93.7	47.2	3.7	1.4	1.0
Wed'esday, Mar. 9	126.2	93.6	47.0	3.4	1.2	1.0
Thursday, Mar. 10	126.2	93.6	46.9	3.3	1.3	1.0
Friday, Mar. 11	126.1	93.5	47.0	3.2	1.1	0.6
Saturday, Mar. 12	126.4	93.4	47.0	3.1	1.5	0.9

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending March 23, 1910 (75th meridian time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	A. M.	P. M.	P. M.
March 17	....	1.56	7.58	2.17	8.20
March 18	....	2.48	8.53	3.15	9.20
March 19	....	2.51	10.00	4.25	10.30
March 20	....	5.06	11.25	5.47	11.57
			P. M.		
March 21	....	6.22	12.53	7.05	....
March 22	1.18	7.32	2.02	8.10	....
March 23	2.23	8.30	2.53	9.00	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Leasing of Land at Pedro Miguel.

Bids will be received up to March 21, 1910, for the leasing to the highest bidder, at an annual rental for a period of three years, of a plot of ground at Pedro Miguel, of about seven hectares, formerly used by the Quartermaster's Department as a garden farm. The land to be leased has been cleared and prepared for cultivation. Bids must be addressed to the Collector of Revenues, Ancon, C. Z., and must be enclosed in envelope endorsed "Bid for leasing of land at Pedro Miguel." The right is reserved to reject any and all bids.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Ancon	P. R. R.	Wednesday	Mar. 9
Advance	P. R. R.	Saturday	Mar. 12
Panama	P. R. R.	Friday	Mar. 18
Allianca	P. R. R.	Thursday	Mar. 24
Colon	P. R. R.	Thursday	Mar. 31

CRISTOBAL TO NEW YORK.

Colon	P. R. R.	Saturday	Mar. 19
Advance	P. R. R	Friday	Mar. 25
Panama	P. R. R.	Thursday	Mar. 31
Allianca	P. R. R.	Wednesday	Apr. 6
Colon	P. R. R.	Tuesday	Apr. 12

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

NEW YORK TO COLON.

Almirante	U.F.C.	Thursday	Mar. 10
Prinz Aug. Wilhelm	H.-A.	Saturday	Mar. 12
Santa Marta	U.F.C.	Thursday	Mar. 17
Oruba	R.-M.	Saturday	Mar. 19
Metapan	U.F.C.	Thursday	Mar. 24
Prinz Joachim	H.-A.	Saturday	Mar. 26
Zacapa	U.F.C.	Thursday	Mar. 31
Magdalena	R.-M.	Saturday	Apr. 2
Prinz Aug. Wilhelm	H.-A.	Saturday	Apr. 9
Clyde	R.-M.	Saturday	Apr. 16
Prinz Joachim	H.-A.	Saturday	Apr. 23
Atrato	R.-M.	Saturday	Apr. 30

COLON TO NEW YORK.

Almirante	U.F.C.	Sunday	Mar. 20
Magdalena	R.-M.	Wednesday	Mar. 23
Santa Marta	U.F.C.	Sunday	Mar. 27
Prinz Aug. Wilhelm	H.-A.	Tuesday	Mar. 29
Metapan	U.F.C.	Sunday	Apr. 3
Clyde	R.-M.	Wednesday	Apr. 6
Zacapa	U.F.C.	Sunday	Apr. 10
Prinz Joachim	H.-A.	Tuesday	Apr. 12
Thames	R.-M.	Wednesday	Apr. 20
Prinz Aug. Wilhelm	H.-A.	Tuesday	Apr. 26
Prinz Joachim	H.-A.	Tuesday	May 10

NEW ORLEANS TO COLON.

Abangarez	U.F.C.	Saturday	Mar. 12
Atenas	U.F.C.	Saturday	Mar. 19
Turrialba	U.F.C.	Saturday	Mar. 26

COLON TO NEW ORLEANS.

Abangarez	U.F.C.	Tuesday	Mar. 22
Atenas	U.F.C.	Tuesday	Mar. 29
Turrialba	U F.C.	Tuesday	Apr. 5

COLON TO BARBADOS, CALLING AT TRINIDAD.

Oruba	R.-M.	Tuesday	Mar. 29

The next sailings of the Leyland Line will be as follows: *Colonian* for New Orleans, via Kingston, Ja., on or about March 20.

Hamburg-American steamers leave Colon for New York, via Kingston, every other Tuesday at 10 a. m., and for Port Limon, Costa Rica, every other Wednesday at 2 p. m.

All Royal Mail steamers mentioned above leave early in the morning from Colon, via Kingston, Jamaica, for New York. All mail and passengers should be on board early on day of sailing.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The United Fruit Company has a steamer leaving Colon every Sunday at 5 p. m., for New York City, via Santa Marta and Kingston, Jamaica; returning, steamers from New York for Colon touch at Kingston, Jamaica.

The following vessels arrived at, or departed from the port of Balboa during the week ending March 12:

Arrivals—March 7, *Loa*, from south ports; March 10, *City of Panama*, from San Francisco; *Chiriqui*, from intermediate ports; March 11, *Quito*, from intermediate ports.

Departures—March 5, *Huallaga*, for south ports; March 8, *Ecuador*, for Guayaquil; March 9, *Limari*, for south ports; March 11, *City of Sydney*, for San Francisco.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, MARCH 23, 1910. No. 30.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications

THE CANAL RECORD

Ancon, Canal Zone,

Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Chairman's Monthly Report.

The report of the Chairman of the Isthmian Canal Commission for the month of February is published in full in other columns of this issue of THE CANAL RECORD. It gives a detailed account of the progress of Canal work in all departments and divisions.

Order for Lock Gate Material.

The largest single order for manufactured steel, as well as the largest single order for material of any class, ever made by the Isthmian Canal Commission, was sent to Washington on the steamship *Allianca* on March 13. The requisition, with the accompanying set of specifications, calls for the manufacture, delivery and erection of about 58,000 tons of steel parts, which will be used in the construction of the 46 mitering lock gates, of two leaves each, at the Gatun, Pedro Miguel and Miraflores Locks. The bulk of the material is to be delivered and erected on the basis of a certain price per pound, but in some cases the Canal Commission specifies that it will furnish the material, which will be supplied from the 8,000 tons of lock gate material, already on order. The specifications stipulate that all gates shall be completely erected by January 1, 1914. All material will be furnished on competitive bid.

The number of gate leaves, according to height, at the three lock sites is shown by the following table:

HEIGHT.	Gatun.	Pedro Miguel.	Miraflores.
82 feet	....	....	4
79 feet	....	16	....
77 feet	32	....	16
66 feet	....	....	4
54 feet 8 inches	4	4	....
47 feet 4 inches	4	4	4
Total	40	24	28

The total number of leaves is 92, two for each gate. All gates of the same height will be identical in construction, except those 47 feet 4 inches high, which have different footwalks, when used as upper and lower guard gates, respectively.

If all the leaves should be piled one on top of another they would make a tower one and one-fifth miles high.

Berm Crane No. 1 in Operation.

Berm crane No. 1 of the permanent construction plant at the Pedro Miguel Locks was placed in service on Tuesday, March 15, and one of the two 2-cubic yard mixers, with which the crane is equipped, was operated during the remainder of the week for a total of 28 hours, its output aggregating 1,448 cubic yards. The trestle extending from the north forebay into the lock pit has been completed and all concrete produced by the berm crane mixer was transported over the narrow gage road into the lock and there handled by the chamber crane. The record of concrete laying, during seven days of eight hours, for the week ending March 19 was as follows:

	CUBIC YARDS.	
	Rock.	Concrete.
March 13		124
March 14	20	491
March 15	40	616
March 16	8	776
March 17	30	667
March 18	30	719
March 19	...	672
Total	128	4,065
Previously reported	190	71,284½
Grand total	318	75,349½

Enlarging Palo Seco Garden.

The vegetable garden at the Palo Seco leper asylum, which is tended by the inmates, will be enlarged as soon as the necessary arrangements can be made. Bananas, plantains, yams and yucca have been grown to some extent, but the output has not been enough to keep the wants of the colony supplied. It is proposed to increase the acreage in bananas and plantains as soon as a supply of banana plants and plaintain shoots can be obtained.

Colon Sewer Building.

A locomotive crane, operating an orange peel bucket, has been set at work excavating the D Street sewer in Colon, and better progress is made than heretofore. The excavated material not required is hauled away by residents of Colon for filling purposes. The concrete work on the sewer was begun this week, the material being supplied by a portable mixer mounted, with its engine, on a flat car. As the construction track closely parallels the ditch throughout its length, it is possible to dump the concrete from the mixer through a chute exactly at the point needed, thereby avoiding rehandling.

The size of the sewer from its outlet in Limon Bay to Third Street, inside cross section measurement, will be 7 feet 10 inches; from Third to Sixth Streets, 6 feet 10 inches; from Sixth to Eleventh Streets, 5 feet; from Eleventh to Fourteenth Streets, 6 feet 10 inches; and from Fourteenth to Seventeenth Streets, where the southerly outlet terminates in Folk River, 7 feet 10 inches. The sewer will have a grade of 2-10 per cent from First to Ninth Streets, where the high point is reached, and from there, it again slopes on the same grade to the southerly outlet. A chamber will be provided at each end for a regulating gate. The concrete will be 12 inches thick at the bottom; from 8 to 10 inches thick at the top, and 9 inches thick on the sides. It will be reinforced with old French iron rails, spaced 16 inches on centers at the top, and 24 inches at the bottom; and by ⅝-inch square bars spaced 12 inches on centers.

Cement Shipments.

Owing to the increased consumption of cement at Gatun Locks, with until recently, no corresponding increase in shipments, the stock on hand at Gatun reached its lowest point, one day last week, when less than 1,000 barrels were available for use. The steamship *Colon*, arriving at Cristobal on March 13 brought 5,000 barrels, and this shipment went to Gatun, but as the present rate of consumption at the locks and at the spillway is about 3,000 barrels per day, the situation was not relieved until the arrival of the *Ancon* on March 17. This ship brought 35,000 barrels of cement for the Atlantic Division, and 60,000 bags for the Pacific Division. Of this amount, 4,000 barrels, about equally divided between the two divisions, were turned over to the Panama railroad for use on the relocation.

Pacific Division Hydraulic Zone.

The zone to be excavated with hydraulic monitors in the Pacific Division begins at a point in the Canal channel nearly opposite Corozal, and extends north to, and includes the lower lock at Miraflores, a distance of about one and one-half miles. From the southern end of this zone to the five mile point in the Pacific entrance there is open water, and the channel has been partially dredged by the Pacific Division dredging fleet. The surface of the ground in the territory remaining to be excavated is flat and subject to tidal inundations. The soil consists of a dark muck, containing a small percentage of sand and gravel, overlying more or less rock. To prevent tidal inroads in this section, when the work is commenced, the area will be diked in. The primary operations at this point will consist of sluicing the earth into sumps, and afterwards pumping it out of the latter to one side of the Canal, thereby reclaiming a considerable area of swamp land.

The steam pumping plant, which is to furnish the water for these operations, is

NOTES OF PROGRESS.

(Continued.)

located on the west bank of the Canal, near the open water channel, and excavation for the site and foundations is in progress. A steam shovel is engaged in cutting away a section of a 15-foot bank to make room for the building, while the excavation for the walls and pump foundations is accomplished by hand. Hard trap rock is encountered in every part of the site at about mean sea level, requiring much drilling and blasting.

The four multistage pumps, with which the plant will be equipped, will be arranged in two units and mounted upon concrete bases, 12 by 16 feet in size, built on solid rock. The concrete foundation walls of the plant will be about four feet high, with the outer wall, which faces the channel, of slightly heavier construction than the other sections. The superstructure will be of frame work, sheathed with galvanized iron, and in addition to the pumps, will house four boilers, also arranged in two units. The concrete construction of the outer wall of the building, and of one of the pump foundations was started about two weeks ago, the material being supplied by a portable mixer. A large amount of machinery has already arrived, a single shipment of 453 tons having been received on March 1. This is being stored along the material track leading to the pumping plant.

One of the three concrete barges for use in supporting the dredging pumps, which will pump material into the core of the west dam at Miraflores, is about 75 per cent completed. A small building has been erected near Cocoli Hill to house the relay pumps and motors, and part of the equipment has been installed. These pumps are to be employed in assisting the pumps on the concrete barges in making the 70-foot lift to the crest of the dam.

Contract Excavation by Sluicing.

The contract for excavating a section of the Canal prism near Tabernilla, containing about 36,138 cubic yards, and a section near Bohio, containing about 166,272 cubic yards, has been awarded to Earl C. McFarland of Panama. The contractor has placed an order in the States for machinery for a sluicing plant by means of which he proposes to wash the material to be excavated into the Chagres River. Two streams at 330 pounds pressure will be played on the material.

Concrete Operations at Gatun Locks.

Following is a report of the concrete placed at Gatun Locks, by days of 12 hours, during the week ending March 19:

	Cubic Yards.
March 14	1,910
March 15	1,490
March 16	1,520
March 17	2,030
March 18	1,610
March 19	1,887
Total	10,447

During the week, 2,504 cubic yards of concrete were placed in the spillway of Gatun Dam.

The spur line extending from the Panama railroad terminal, in Panama, to the sand beach, located between Peña Prieta and Point Patilla, which has been in use by the railroad company as a sand track for several years past, is being removed. The railroad company is now able to procure all the sand required for its locomotives, and other purposes, from the Pacific Division, consequently this track is no longer needed, and the property owners controlling the sand deposits have been notified of the cancellation of the contracts.

Rock Crushing at Porto Bello.

A statement of the rock crushed at Porto Bello, and the time the crushers were in operation, by days, during the week ending March 19 follows:

	Hours worked.	Cubic Yards.
March 14	9:55	2,721
March 15	12:50	2,292
March 16	12:10	2,081
March 17	7:10	1,538
March 18	9:15	1,823
March 19	9:55	2,674
Total	60:35	13,129

Counsel and Chief Attorney.

Mr. Frank Feuille, who has been appointed by the Secretary of War, Counsel for the Isthmian Canal Commission and Chief Attorney for the Isthmian Canal Commission and the Panama Railroad Company, succeeding Mr. George M. Shontz, Prosecuting Attorney for the Isthmian Canal Commission, resigned, arrived on the Isthmus on March 10, and entered at once upon his duties.

Mr. Feuille was born in Havana, Cuba, on September 10, 1860, of French-Irish parents who returned to the United States, taking up their residence in Texas, a few months after his birth. He became a naturalized citizen at the age of 24. He is a graduate of the law department of the University of Texas; was appointed Assistant Attorney General of Porto Rico in 1902; in 1904, resigned the position to become special judge to establish the new judicial system of the island; in April, 1905, was appointed Attorney General of the island by President Roosevelt, upon the recommendation of the Governor and heads of departments, and in the fall of 1907, at his own request, was transferred to Cuba, where he became legal assistant to Col. E. H. Crowder, supervisor of the Department of State and Justice, remaining there until the end of the second period of intervention.

Death of Maurice Hutin.

The death of Maurice Hutin at Paris was announced on March 16. He was Subdirector of French canal works on the Isthmus under Jules Dingler, and succeeded him as Director General on September 4, 1885, holding the position until January, 1, 1886. He was subsequently Director General of the New Panama Canal Company, and later President as well. He conducted the negotiations between the Company and the United States Government in 1901 and 1902, which resulted in the sale of the Company's rights and properties for $40,000,000.

Marine Corps Changes.

The transport *Buffalo* arrived at anchorage in Panama Bay from Corinto, Nicaragua, on Friday, March 18, with 750 marines on board, under command of Col. James E. Mahoney. The marines were detailed for service in Nicaraguan waters on the west coast and crossed the Isthmus en route there last December. They disembarked on Tuesday, March 22, and will go into temporary encampment at Whitehouse, near Las Cascadas. A labor barrack at that point, consisting of eighteen buildings, together with a kitchen and a mess hall for the officers, has been assigned for their use.

Three hundred and one marines, who have been stationed at Camp Elliott, were transferred on Saturday, March 19 to the transport *Prairie*, which sailed from Colon for the States on Wednesday. Some of these men have been in the Isthmian service for two years, or more. It is expected that the new force for Camp Elliott will be recruited from the men who have just returned from Nicaragua.

Obituary.

Harold D. McGurn, an American, employed as a wireman in the electrical department at Gatun Locks, was killed instantly by electric shock at Gatun Dam, at 9.40 a. m., March 17. He was standing near the relay pump station on a cross-arm, when his head accidentally came into contact with a high voltage wire. He was 25 years of age, married, and had been on the Isthmus since June 25, 1907. His father, Frank A. McGurn, resides at No. 418 Lafayette Avenue, Brooklyn. The funeral took place at Cristobal, Sunday, March 20, under the auspices of the Odd Fellows.

Lawrence T. McKenna, an American, employed in the Department of Examination of Accounts, died at Ancon Hospital at 7.40 p. m., March 18, from pulmonary tuberculosis. He was 24 years of age, unmarried, and had been on the Isthmus six months. His mother, Mrs. T. J. McKenna, resides at No. 165 West Eighty-second Street, New York City.

Willis R. Cole, who committed suicide at Gatun on March 15, was a native of Mansfield, Ohio; was 39 years of age, and had been on the Isthmus two years and eight months. He was a locomotive engineer in the employ of the Atlantic Division.

George Tartner, a native of Germany, but naturalized in the United States, who was employed as a carpenter in the Pacific Division at Ancon quarry, died at Ancon Hospital on Saturday, March 12, from a complication of diseases. He was 51 years of age, a widower, and had been on the Isthmus four years, residing in Panama. A brother-in-law, Charles Hoover, lives at No. 187 Dikeman Street, Brooklyn, N. Y.

Mrs. Stewart, wife of A. H. Stewart, a roadmaster on the Panama railroad, residing at house No. 22-A, Ancon, died at Ancon Hospital on Thursday afternoon, March 19, after a brief illness. The funeral service will be held at the Methodist Episcopal church in Panama on Wednesday, March 23, at 4 p. m. Mrs. Stewart formerly resided at Coolville, Ohio, where the body will be shipped.

Sailing of the Ancon.

The steamship *Ancon*, now in port will sail from Pier No. 11, Cristobal, at 3 p. m., on Friday, March 25, 1910.

The roads in the Ancon Hospital reservation are being given a layer of crushed rock.

Lost—On evening passenger train out of Panama, between Panama and Bas Obispo, on March 17, a ladies' black purse, containing one $10 bill, $2.50 in silver, one brooch, and one ruby ring. A liberal reward will be paid on return to Mrs. A E. Witty, house 35, Bas Obispo, C. Z.

CANAL MEDAL LIST.

The following is a list of American employes of the Isthmian Canal Commission, who completed two years' service on the Isthmus during the twelve months ending December 31, 1909, and for that reason are entitled to receive the Canal Medal. The date shown opposite each name is that from which medal service is reckoned.

The list is now published in order that it may be carefully checked by those interested. Any omissions, errors in the spelling of names, or in the dates from which medal service is reckoned, should be reported to the Assistant to the Chairman, at Culebra, for correction.

In numbering the medals the relative standing of employes, whose medal service is reckoned from the same date, will be determined by lot.

Name.	*Date.*
1907.	
Erwin, William G	Sept. 13
Fink, Charles W	Sept. 13
Freeman, Floyd C	Sept. 13
Hall, David E	Sept. 13
Hamilton, Alanson	Sept. 13
Holland, Willis D	Sept. 13
Holmes, Robert H	Sept. 13
Kearney, Vincent J	Sept. 13
Kennedy, James	Sept. 13
Meadows, James O	Sept. 13
Shay, Frank J	Sept. 13
Woodgard, Claude C	Sept. 14
Hess, Leo A	Sept. 16
King, Joseph F	Sept. 16
Wilder, Daniel B	Sept. 16
Hackett, Burton J	Sept. 17
Kieswetter, Robert C	Sept. 17
Lamastus, R. L	Sept. 17
Rogow, Morris	Sept. 17
Rowley, Agnes I	Sept. 17
Parker, William E	Sept. 18
Benson, Aaron	Sept. 19
Kratli, John O	Sept. 19
Beach, Frank A	Sept. 20
Belt, John W	Sept. 20
Cahill, John	Sept. 20
Calhoun, Crede H	Sept. 20
Goebel, Thomas S	Sept. 20
Graham, William H	Sept. 20
Hegner, Walter A	Sept. 20
Helm, Peter	Sept. 20
Hile, George H	Sept. 20
Hopkins, Reed H	Sept. 20
Lewis, Frederick E	Sept. 20
McArthur, William A	Sept. 20
Nuckols, Horace	Sept. 20
Ruben, O. N	Sept. 20
Sullivan, Edward G	Sept. 20
Vreeland, Eugene H	Sept. 20
Thayer, Aimee A	Sept. 23
Daley, John A	Sept. 24
Evans, Leroy P	Sept. 24
Grundy, Clarence N	Sept. 24
Jones, Roy C	Sept. 24
Ross, John W., Jr	Sept. 24
Sloan, Samuel S	Sept. 24
Upson, Uriah LeRoi	Sept. 24
White, Clarence D	Sept. 24
Collier, George W., Jr	Sept. 26
Griesinger, Charles	Sept. 26
Jarrell, Charles D	Sept. 27
Anderson, Frank H	Sept. 30
Bartholomew, George H	Sept. 30
Bohnhorst, Wilhelm H	Sept. 30
Calkins, Charles E	Sept. 30
Curtis, Abner S	Sept. 30
Farlee, William A	Sept. 30
Gates, Ira N	Sept. 30
Gnatz, Frederick E., Jr	Sept. 30
Hanff, William B	Sept. 30
Hutson, Paul S	Sept. 30
Kelsey, John B	Sept. 30
Kenyon, Alpha, Jr	Sept. 30
Lipsey, Thomas E. L	Sept. 30
M'Naughton, Percival J	Sept. 30
Mahon, John	Sept. 30
McDonald, Martin A	Sept. 30
McInerney, Michael	Sept. 30
Morgali, Ralph	Sept. 30
Nichols, Frederick C	Sept. 30
Norton, Frederick D	Sept. 30
Norton, Rolland A	Sept. 30
Parker, Edwin F	Sept. 30
Ray, Thomas	Sept. 30
Short, Cleveland L	Sept. 30
Stanton, Fred C	Sept. 30
White, Alma	Sept. 30
Wiggins, Ralph R	Sept. 30
Alstaetter, Ida	Oct. 1
Bailey, Catherine	Oct. 1
Cuff, William J	Oct. 1
Janke, Charles A	Oct. 1
Manion, James	Oct. 1
Mara, Bert J	Oct. 1
Miracle, Mamie	Oct. 1
O'Connor, Florence M	Oct. 1
Derrenbacher, William	Oct. 2
Mollenhauer, Arnold	Oct. 2
Fraser, James S	Oct. 3
Lucey, William J	Oct. 3
Crafts, Charles W	Oct. 6
Anderson, Charles J	Oct. 7
Casner, Edward	Oct. 8
Pittman, Katherine	Oct. 8
Sanford, Julian B	Oct. 8
Silver, Oscar F	Oct. 8
Stokes, George T	Oct. 8
Aubrey, John F	Oct. 10
Bloemer, Henry P	Oct. 10
Lesante, George G	Oct. 10
Brownawell, George W	Oct. 13
Conrard, John A	Oct. 13
Fors, Daniel	Oct. 13
Fraser, Alexander M	Oct. 13
Frost, Odina J. L	Oct. 13
Heenan, James	Oct. 13
Johnson, James E	Oct. 13
Kosier, Robert S	Oct. 13
Miller, Burton B	Oct. 13
Payne, Edward W	Oct. 13
Rice, Henry N	Oct. 13
Seeley, Morris M	Oct. 13
Tribolet, Charles T	Oct. 13
Vogel, Edward J	Oct. 13
Wade, William E	Oct. 13
Barrat, Joseph G	Oct. 14
Byrne, Michael J	Oct. 14
Crooks, George C	Oct. 14
Egan, John F	Oct. 14
Greene, Jacob W	Oct. 14
Kearney, Bernard L	Oct. 14
Mason, Chauncey J	Oct. 14
Miller, Harry E	Oct. 14
Pineau, Aldhemar E	Oct. 14
Powers, Alexander	Oct. 14
Schwartz, Albert F	Oct. 14
Schwarzbach, Carl G. P	Oct. 14
White, Jonas E	Oct. 14
Beattie, J. M. (Miss)	Oct. 15
Houseknecht, Chester A	Oct. 15
Bubb, John G., Jr	Oct. 16
Clarke, E. E	Oct. 16
Morrell, George W	Oct. 16
Park, Claude M	Oct. 16
Peterson, C. F	Oct. 16
Mollard, G. F	Oct. 17
Alden, Charles E	Oct. 18
Danielsen, Julius A	Oct. 18
Gribbon, Henry C	Oct. 18
Humphrey, John C	Oct. 18
Schroeder, Henry	Oct. 18
Bryan, Neil F	Oct. 19
Bishop, William J	Oct. 20
Goodman, Robert G	Oct. 21
Haggerty, John	Oct. 21
Mitchell, Vernon	Oct. 21
Clarke, John H	Oct. 22
Hess, Clyde R	Oct. 23
O'Connor, William F	Oct. 23
Pearson, Charles F	Oct. 24
Tedford, Wallace A	Oct. 24
Wood, Joseph E	Oct. 24
Archer, Clifford F	Oct. 25
Fitzgerald, James G	Oct. 25
Jernegan, Warren G	Oct. 25
Lowe, Grover C	Oct. 25
McNiel, Jacob R	Oct. 25
Perry, Charles S	Oct. 25
Blenkinsop, Layton	Oct. 27
Boone, William O	Oct. 27
Brady, Edward	Oct. 27
Dikeman, Edward L	Oct. 27
Donnelly, Daniel R	Oct. 27
Eggleston, Orlando W	Oct. 27
Frank, William	Oct. 27
Herbold, Fred W	Oct. 27
Hughes, John H	Oct. 27
Lampson, Orson R	Oct. 27
McGlade, Anthony F	Oct. 27
McPherson, William E	Oct. 27
Payne, William H	Oct. 27
Pehler, Ida R	Oct. 27
Rosselot, William J	Oct. 27
Salzmann, Charles	Oct. 27
Saxton, Arthur F	Oct. 27
Schwalenberg, Frank H	Oct. 27
Siegfried, Alvin	Oct. 27
Steadman, Edward R	Oct. 27
Warner, Albert R	Oct. 27
Wilkins, John M., Jr	Oct. 27
Wright, Edward B	Oct. 27
MacPherson, Arthur Y	Oct. 28
Deems, Ernest A	Oct. 30
Fenstermacher, Edward	Oct. 30
McCormack, Angus	Oct. 31
Benninger, Marshall P	Nov. 1
Bielep, Carl	Nov. 1
Bunton, Edward P	Nov. 1
Coonly, John V	Nov. 1
Craddock, John C	Nov. 1
Falkner, John R	Nov. 1
Gayle, Irene	Nov. 1
Hartell, George W	Nov. 1
Herrick, Albert	Nov. 1
Horton, Stanley R	Nov. 1
Mason, Frank A	Nov. 1
Packard, Clement R	Nov. 1
Robinson, Fred W	Nov. 1
Schwab, William A., Jr	Nov. 1
Simonson, Carl O	Nov. 1
Spriegel, Fred W	Nov. 1
Bryan, Henry B	Nov. 2
Mayhew, Henry L	Nov. 7
Oakley, Ira J	Nov. 7
Thomson, Walter S	Nov. 7
Van Ostrand, John W., Jr	Nov. 7
Williams, Harry O	Nov. 7
Higgins, Joseph H	Nov. 8
Reber, Ray	Nov. 8
Whiting, Thomas J	Nov. 10
Thompson, Frank A	Nov. 11
Evans, Lawrence C	Nov. 12
Rogers, Walter H	Nov. 12
Wallace, Alexander	Nov. 12
Davis, George	Nov. 13
Shaffer, George	Nov. 13
Thompson, Charles J	Nov. 13
Bergert, Henry	Nov. 14
Cooper, William L	Nov. 14
Murphy, Alfred T	Nov. 14
Rose, Paul C	Nov. 14
Whaler, Frederick G	Nov. 14
Abston, Jack M	Nov. 15
Austin, Edward M	Nov. 15
Cheney, John W	Nov. 15
Shumway, Frank	Nov. 16
Blackburn, Samuel E	Nov. 17
Burns, Rollin P	Nov. 17
Burrows, Clinton A	Nov. 17
Dempster, Thomas C	Nov. 17
Hinkley, Clyde H	Nov. 17
Lanning, Harry T	Nov. 17
Laughlin, Horace W	Nov. 17
Lycett, Michael J	Nov. 17
M'Cormick, Rich'd P., Jr	Nov. 17
Meacham, Jerome	Nov. 17
Ryan, John M	Nov. 17
Sanger, Victor	Nov. 17
Smith, Harry G	Nov. 17
Wright, Wallace J	Nov. 17
Jacksoo, Henry	Nov. 18
Urwiler, Charles J	Nov. 20
Clarke, Charles E	Nov. 21
Wall, John J	Nov. 21
Allen, William J	Nov. 22
Dibrell, Jeptha W	Nov. 22
Granger, Rene	Nov. 22
Hill, Frank M	Nov. 22
Lester, Steve H	Nov. 22
Snapp, Bert M	Nov. 22
Stickle, Horton W	Nov. 22
Hunter, Oscar R	Nov. 23
Cornthwaite, Homer G	Nov. 24
Drake, William	Nov. 24
Fraedrich, George	Nov. 24
Kimball, Oliver	Nov. 24
Lius, Martin J	Nov. 24
Love, William	Nov. 24
Mitchell, Merle	Nov. 24
Naecker, Henry R	Nov. 24
Rosenquist, Fred H	Nov. 24
Showers, Ida M	Nov. 24
Smith, Walter B	Nov. 24
Tubert, William	Nov. 24
Werner, George	Nov. 24
Conley, Richard	Nov. 25
Bartlett, Emir C	Nov. 26
Blue, Jess W	Nov. 26
Dimont, Luke	Nov. 26
Jordan, Thomas M	Nov. 26
Anderson, James B	Nov. 29
Cable, Charles C	Nov. 29
Drennan, Jeremy A	Nov. 29
Evans, Lola M	Nov. 29
Hunter, Hugh S	Nov. 29
Isgrig, Beverly T	Nov. 29
Oberle, Jack	Nov. 29
Sehr, Mikel P	Nov. 29
Bletzer, Robert A	Nov. 30
McKee, George R	Dec. 1
Bryan, Samuel H	Dec. 2
Hagan, J. M	Dec. 2
Lingo, Charles R	Dec. 2
Clark, Lorin A	Dec. 3
Genac, Daniel J	Dec. 3
Leslie, Thomas	Dec. 3
Maloney, Patrick H	Dec. 3
Kaiser, William L	Dec. 4
Stone, Hugh J	Dec. 4
Cochrane, Joseph	Dec. 5
Knight, Evarts L	Dec. 5
Proctor, Clyde L	Dec. 5
Steele, William S	Dec. 5
Talbot, Sidney F	Dec. 5
Belzil, Abraham	Dec. 6
Doyle, John B	Dec. 7
Grier, Charles T	Dec. 7
Barker, Joseph C	Dec. 9
Cummings, Michael J	Dec. 9
Ewing, Rupert A	Dec. 9
Fluharty, Edward E	Dec. 9
Hedrick, William M	Dec. 9
Lee, Ernest E	Dec. 9
Logsdon, Edgar S	Dec. 9
King, George L	Dec. 10
Burdett, William A	Dec. 11
Hoffman, Charles H	Dec. 11
Jansen, Cornelius J	Dec. 12
Rogers, Walter H	Dec. 12
McCourt, John S	Dec. 13
Suddarth, Richard L	Dec. 13
Ball, Ivan H	Dec. 14
Norman, Wallace H	Dec. 14
Bucklin, E. W	Dec. 15
Clark, Charles N	Dec. 15
Clark, John A	Dec. 15
James, Charles H	Dec. 15
Lawrence, Joseph	Dec. 15
Schofield, Ralph A	Dec. 15
Hooker, George H	Dec. 16
Loughery, George J	Dec. 16
Smith, Walter	Dec. 16
Whitney, Frank H	Dec. 17
Barrows, Edgar E	Dec. 18
Donnelly, Eugene A	Dec. 18
Platow, William	Dec. 18
Walker, Charles	Dec. 18
Grimison, Thomas I	Dec. 19
Johnson, Ben	Dec. 19
Case, Walter H	Dec. 20
Harrold, John J	Dec. 20
Heberling, George	Dec. 20
Shoesmith, George W	Dec. 20
Warren, Albert L	Dec. 20
Davis, James W	Dec. 21
Whitehead, Joseph	Dec. 21
Evans, William A., Jr	Dec. 23
Fink, Joseph	Dec. 23
Shaw, George F	Dec. 23
Badger, Joseph	Dec. 24
Finger, David	Dec. 24
Gebhart, Edward J	Dec. 26
Ryle, Elbert C	Dec. 26
Smith, Edwin R	Dec. 26
Wills, Hugh E	Dec. 26
Anderson, James L	Dec. 27
Cole, Benjamin H	Dec. 27
Boyd, Waller M	Dec. 28
Gill, Matt	Dec. 30
Keirstead, Horton W	Dec. 30
Matter, Edward P	Dec. 30
Cassidy, Jas. O'Connell	Dec. 31

Steam Vessel Licenses.

One hundred and fourteen applications for licenses by officers of steam vessels, made under the provisions of Executive Order No. 1131, establishing a steamboat inspection service for the Canal Zone, were passed upon by the Board of Local Inspectors during the month of February. The board recommended granting license to 112 of the applicants, only two failing to pass. The licenses issued, according to grades, were: Masters of steam launches, 2; masters of self-propelling hopper barges, 10; masters of towboats, 6; masters of ladder dredges, 6; masters of suction dredges, 1; masters of dipper dredges, 1; engineers of launches, 2; chief and second engineers of self-propelling hopper barges, 24; chief and second engineers of towboats, 2; chief, second and third engineers of sea going dredges, and all engineers on ladder, dipper and suction dredges, 9; mates of self-propelling hopper barges, 14; mates of towboats, 2; mates of dredges of all kinds, 11; pilots of steam launches, 2; pilots of self-propelling hopper barges, 10; pilots of towboats, 7; pilots of passenger and cargo boats, 20. Licenses to pilots include 17 issued to masters as joint licenses to masters and pilots.

While the pilots of passenger and cargo vessels engaged in the Isthmian trade are subject to the provisions of the Executive Order, the taking out of a pilot's license may be avoided by employing a harbor pilot to bring the vessel into port. This is being done in many cases, especially on the Atlantic side.

CANAL WORK IN FEBRUARY.

Monthly Report of the Chairman to the Secretary of War.

CULEBRA, C. Z., March 16, 1910.

The Honorable the Secretary of War,
Washington, D. C.

Sir: I have the honor to submit the following report of operations on the Isthmus for the month of February, 1910:

Department of Construction and Engineering.

The following table summarizes the principal items of construction work accomplished by the Atlantic, Central and Pacific Divisions during the month:

Item.	Unit.	Atlantic.	Central.	Pacific.	Total.
Work excavation, dry	Cubic yards	123,737	1,545,482	46,686	1,715,906
Work excavation, wet	Cubic yards	493,448	....	280,591	774,039
Total work excavation	Cubic yards	617,186	1,545,482	327,277	2,489,945
Plant excavation, dry	Cubic yards	....	785	53,395	54,180
Plant excavation, wet	Cubic yards	23,504	....	35,366	58,870
Total plant excavation	Cubic yards	23,504	785	88,761	113,050
Total Canal excavation	Cubic yards	640,690	1,546,267	416,038	2,602,995
Material placed in dams	Cubic yards	564,003	....	12,948	576,951
Concrete placed	Cubic yards	62,284	....	13,408	75,692
Explosives used	Tons (Gross)	52.78	167.70	23.45	243.93
Rock drilling	Feet	71,441	336,305	71,796	479,542
Track removed	Miles	....	19.12	....	19.12
New track laid	Miles	6.38	26.04	1.91	34.33
Rock crushed	Cubic yards	61,136	650	30,569	92,355
Cement used	Barrels	66,827	76	13,934	80,837
New roads built	Miles	0.25	....	....	0.25
Water mains laid	Feet	1,808	1,400	7,119	10,327
Sewers laid	Feet	156	155	4,357	4,668
New drains and ditches dug	Feet	200	771	5,595	6,566
Average daily force	....	8,279	8,828	5,022	22,129
Rainfall, average	Inches	3.60	0.76	2.02	2.11

Atlantic Division.

GATUN LOCKS.

Excavation—Shovel excavation during the month was carried on in all three chambers, but principally in the middle and lower chambers. The excavation for the entire lock proper, exclusive of excavation for approach walls, was 84.6 per cent completed, and the crane excavation in the upper lock and the hand cleaning of the upper lock was 90 per cent completed.

Receiving and Issuing Material—The receipts of stone during the month were satisfactory, and the receipts of sand and cement were less than the consumption.

Mixing and Placing Plants—These plants were kept in satisfactory operation during the month.

Concrete Work—The concrete work for February showed an increase over January, although there were but 23 working days in the month. The bucket measurement exceeded the place measurement by approximately 4 per cent. The concrete work in the upper lock proper was 29 per cent completed. For the entire work, the concrete, exclusive of the approach walls, was approximately 11 per cent completed.

Power Plant—The power plant was operated satisfactorily during the month, showing a further decrease in the cost of power per kilowatt hour.

Iron and Steel Work—The setting of castings in the sill of emergency dam was 90 per cent completed, and the anchorages for the caisson sill completed. The steel work was set ready for concreting in the guard gate sills for the east lock.

GATUN DAM.

Construction during the month increased the total fill by 564,003 cubic yards, making the total amount in place at the end of the month 6,326,147 cubic yards.

Hydraulic Fill—The dredges increased the hydraulic fill by 292,215 cubic yards, which made the total hydraulic fill in place at the close of the month 2,566,946 cubic yards.

Enrockments—The material received from the Central Division, the locks and the spillway, amounting to 271,788 cubic yards, was placed on the north and south toes of the dam, making the total dry fill in place 3,749,101 cubic yards. Bas Obispo rock was placed in storage at New Gatun to the amount of 2,031 cubic yards, making the total in place 176,898 cubic yards, 25 per cent being allowed for swell.

GATUN SPILLWAY.

Excavation in the spillway, and the laying of concrete in the floor, side walls and curtain wall was pushed to the utmost in order to prepare for turning the Chagres River through the spillway at the earliest practicable date.

Excavation—The material excavated amounted to 22,220 cubic yards, making the total at the close of the month 1,389,149 cubic yards.

Concrete—The amount of concrete laid during the month was 6,588 cubic yards, making the total at the close of the month 60,184 cubic yards.

HARBOR AND CHANNEL SECTION.

Dry Excavation Below Sea Level at Mindi—There was no dry excavation at Mindi, but 8,849 cubic yards of crushed rock were unloaded at that point during the month.

Dredging from the Ocean to Mindi—Five dredges removed from the prism 456,340 cubic yards of earth and 37,108 cubic yards of rock. In addition, the dredge *Chagres* removed 13,290 cubic yards of earth and 10,214 cubic yards of rock from the French canal. On February 28th, 40 feet of water could be carried from zero to mile 2 plus 2,750 feet; 30 feet to mile 4 plus 600 feet; 20 feet to mile 4 plus 5,050 feet, and 10 feet to mile 5 plus 1,110 feet, the end of the cut.

PORTO BELLO.

At this point two 8-hour shifts were continued during the month. The maximum day's output was 3,505 cubic yards, and the total for the month 61,136 cubic yards of crushed rock.

Sand, Stone and Cement Service—In connection with this service, plant steamed about 8,496 miles, handled 555 barges, and carried about 2,889 passengers.

NOMBRE DE DIOS.

During the month, 30 barge loads, containing 18,400 cubic yards of sand, were shipped to Cristobal.

COLON BREAKWATERS.

Clearing was begun February 18 on the hill from which core for the west breakwater will be obtained, and 33 acres had been partly completed at the end of the month.

MUNICIPAL ENGINEERING.

The usual work of maintenance of roads, waterworks and sewers, pumping stations, etc., was satisfactorily performed. The municipal engineering subdivision continued the construction of the Agua Clara reservoir, 14,600 cubic yards of earth and 600 cubic yards of rock being placed in the dam during the month.

Central Division.

During the month of February, the total amount of material excavated in the Central Division was 1,546,267 cubic yards, of which 413,131 cubic yards were classified as earth, and 1,133,136 cubic yards as rock. Of this quantity, 1,503,223 cubic yards were removed by steam shovels, 9,196 cubic yards by hand and scraper, and 33,063 cubic yards by contract; 240 cubic yards at La Pita incline, and 545 cubic yards at Tabernilla incline, were also excavated by hand as plant excavation; 1,524,970 cubic yards of the total was primary excavation for the Canal prism, and 20,512 cubic yards was excavation of silt deposited in the completed sections by floods; 785 cubic yards was accessory excavation not of use for the completed Canal.

The daily average number of steam shovels at work during the month was 51.35, and the total number of shovel days was 1,181, as compared with 46.68 shovels at work during the month of January, with 1,167 shovel days.

For comparison with the work done by steam shovels during the corresponding month of the previous year, the following table has been prepared:

Period.	Excavated by shovels.	Classification of material.		Av. No. of shovels at work.	W'kg days.	Av. yards per shovel day.
		Rock.	Earth.			
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds*			*Cu. Yds*
1909: Feb....	1,624,687	1,028,865	595,865	56.05	23	1,260.4
1910: Feb....	1,503,223	1,126,501	376,722	51.35	23	1,272.8

Rainfall at Empire: 1909, 1 50 ins.; 1910, .76 in.

The above table shows the average output per shovel day to be nearly 1 per cent greater in February, 1910, than in the corresponding month of the previous year.

The total amount of material excavated in the Culebra section of the Central Division in February, 1910, was 1,259,173 cubic yards, being the highest record in that section for the month of February, the highest previous record having been in February, 1908, when 1,248,265 cubic yards were removed. The total excavation in the Canal prism for the entire Central Division in February, 1910, was also the largest recorded February excavation from the Canal prism.

The total amount of material to be excavated in order to complete the Canal in the Central Division, when the United States assumed control, was 89,794,493 cubic yards. Up to March 1, 1910, 52,285,564 cubic yards had been removed, leaving 37,508,929 cubic yards to be removed in order to complete all excavation in the Central Division. From these figures it will be seen that 58.2 per cent of all excavation in the Central Division had been completed at the close of the month of February, and 41.8 per cent remained unfinished.

Considering the two sections which compose the Central Division, the excavation completed and that to be completed at the close of February operations was as follows:

CULEBRA SECTION.

	Cubic yards.
Completed	44,114,877
To be completed	33,927,418

CHAGRES SECTION.

Completed	8,170,687
To be completed	3,581,511

From the above figures it will be seen that the Culebra section, locally known as the Culebra Cut, was 56.6 per cent completed, with 43.4 per cent to be completed; the Chagres Section was 69.5 per cent completed, with 30.5 per cent to be completed.

During the month, the following quantities of material were hauled from the Canal prism and dumped in the embankment for the new roadbed for the relocation of the Panama railroad: 176,590 cubic yards between Caimito and Gamboa; 73,167 cubic yards in the vicinity of Pedro Miguel. The total at the close of the month used for this purpose was 3,088,796 cubic yards. During the month, 59,721 cubic yards of earth and 44,213 cubic yards of rock from the Culebra Cut were transported to Gatun for use in the construction of the dam, making the total at the close of the month for this purpose 289,944 cubic yards of earth, and 717,980 cubic yards of rock; 2,714 cubic yards of rock and earth were transported to Lion Hill and Pier No. 11 for the Panama Railroad Company.

The output of the Empire portable rock crusher for the month was 562 cubic yards. The rock crusher at Bas Obispo was not operated during the month, gravel secured from bars which formed during the floods of the Chagres River at Santa Cruz and Matachin being used for track ballast, instead of crushed rock; 20,212 cubic yards of gravel were also secured for future concrete work at Matachin, making the amount stored for this purpose 25,842 cubic yards.

The daily average number of laborers at work on the whole division during the month was 7,860, the average number of gold men being 968.

Pacific Division.

DISTRICT NO. 1—LOCKS AND DAMS.

The total excavation during the month amounted to 51,521 cubic yards. At Pedro Miguel, 11,510 cubic yards of dry filling were added to the prism of the west dam, making the total at the close of the month 181,676 cubic yards. At Miraflores, 1,438 cubic yards of dry filling were added to the toe; no hydraulic filling was added to the core of the west dam, the totals at the close of the month being 501,680 cubic yards and 138,587 cubic yards, respectively. During the month, 7,618 cubic yards of dry filling were placed in backfill, increasing the total to 75,420 cubic yards.

The erection of the handling plant at Pedro Miguel progressed with a fair degree of rapidity. One chamber crane was put in service during the latter part of the month. Chamber crane No. 2 was completed structurally and the wiring and electrical installation nearly completed. One berm crane was practically completed and made ready for service, and berm crane No. 2 was 50 per cent completed.

At Miraflores, the foundation of the hydraulic pumping station was completed, and preparations made for beginning work on the building.

DISTRICT NO. 2—DREDGING.

The following table gives the output of the five dredges which were in operation during the month:

Dredge.	Type.	Cubic Yards.		Remarks.
		Work.	Plant	
Marmot..	Ladder	121,940	......	Place measurement
Badger ..	Ladder	49,699	30,166	Place measurement
Mole.....	Ladder	46,450	......	Place measurement
Cardenas	Dipper	23,350	5,200	Place measurement
Culebra..	Suction	39,152	......	Scow measurement
Total ..	....	280,591	35,366	

DISTRICT NO. 3—MUNICIPAL WORK.

The maintenance and operation of the various municipal plants was continued satisfactorily. The operation of the Rio Grande quarry and rock crusher was discontinued at the close of business on February 12, the service of this plant being no longer required due to the completion of the crusher plant at Ancon quarry.

During the month, the work on the new improvements in the city of Panama was satisfactorily continued. In the Cocoa Grove district, the sewer and water systems were completed.

DISTRICT NO. 4—ANCON QUARRY.

The crib work and revetments made necessary by the slide were completed, and the crusher plant was placed in operation, 23,281 cubic yards of crushed stone being produced.

Relocation of Panama Railroad.

During the month, 226,251 cubic yards of material were excavated, making the total excavation at the close of the month 2,940,672 cubic yards, and 375,232 cubic yards of material were placed in embankment, making the total at the close of the month 7,400,625 cubic yards.

During the month, 1,958 linear feet of trestle were driven, and the work of constructing bridges and culverts was continued. A total of 4,057 linear feet of permanent track was laid, making the total at the close of the month 156,246 linear feet.

The total force averaged 2,994 men during the month.

Quartermaster's Department.

On March 1, there were 84 applications on the No. 1 list of applicants for family quarters, and 454 on the No. 2 list, an increase of 1 and 28, respectively. Of the applicants, 89 are occupying regular or non-housekeeping family quarters at stations, other than those at which their applications are filed.

The slide at Culebra made necessary the removal of two type-5 houses, and it was determined to reerect them at Gatun. The type clubhouse at Gatun was completed and occupied. A number of improvements in type, suggested by experience, were incorporated in this building, which was constructed by contract at a considerable saving compared with the cost of constructing similar buildings heretofore.

There was purchased on the Isthmus material to the value of $141,109.96, and orders were placed in the United States for material estimated to cost $650,338, of which $99,404.25 was on annual contracts.

Circular No. 1, Quartermaster's Department, General Rules Covering Property Accountability and Responsibility, was issued September 15, 1908. A revision was prepared embodying changes suggested by experience since the issuance of the original circular. One of the most important of the new provisions was that, hereafter, at the close of each month, the office of the Chairman and Chief Engineer will be furnished a statement showing, by divisions of the work, the total value of materials and supplies issued during the month, this statement to be a recapitulation of foremen's orders. It is expected that this monthly statement will prove a valuable check in connection with costkeeping accounts.

Subsistence Department.

The operation of the European laborers' messes, the colored laborers' kitchens and the line hotels showed a net profit of $3,259.62, and the operation of the Hotel Tivoli showed a net profit of $3,827.04, the net profit on subsistence operations being $7,086.66.

Department of Civil Administration.

COURTS.

The circuit courts of the Canal Zone disposed of 13 civil and 30 criminal cases, and the district courts of 67 civil and 531 criminal cases.

DIVISION OF POSTS, CUSTOMS AND REVENUES.

The net revenues of the Canal Zone were $16,550.29. The receipts from stamp and card sales and newspaper postage aggregated $6,923.20. The total of money order sales was $427,802.72, and money order fees amounting to $1,894.43 were collected.

During the month, 18 vessels entered at and 19 vessels cleared from the port of Ancon, and 17 vessels entered at and 16 vessels cleared from the port of Cristobal.

DIVISION OF POLICE AND PRISONS.

The number of arrests during the month was 556, an increase of 23, as compared with January. At the close of the month, 155 persons were confined in the district jails.

Twelve convicts were committed to the penitentiary during the month, and 7 were discharged, and on February 28th, 120 convicts were confined in the penitentiary. The labor of the prisoners was utilized in the construction of the Empire-Paraiso road and the grading of streets in West Culebra. The cost of guarding and subsisting convicts was $2,747.50, and the value of work performed by them was $1,666.

DIVISION OF FIRE PROTECTION.

Fifteen fires were reported during the month. The estimated value of property involved was $80,471, and the damage $187.35, of which $159.35 was to Commission and railroad property.

DIVISION OF PUBLIC WORKS.

In the city of Panama, the average daily consumption of water during the month was 977,545 gallons, and in Colon, 770,616 gallons.

The usual inspection and maintenance

work of this division was performed during the month.

DIVISION OF SCHOOLS.

The total enrollment in the white schools was 813, and the average daily attendance 711, or 87 per cent of the enrollment; and in the colored schools the total enrollment was 1,169, and the average daily attendance 662, or 56 per cent of the enrollment.

Department of Sanitation.

The annual average per thousand of deaths from all causes among employes was 8.75, as compared with 9.42 for February, 1909, and 12.80 for February, 1908. The death rate per thousand on an assumed total population in the cities of Panama and Colon, and the Canal Zone, was 17.50, as against 18.59 for February, 1909, and 21.40 for February, 1908. For the month the annual average per thousand among employes of malarial fever in hospitals was 85, as against 236 for February, 1909, and 156 for February, 1908. The admissions of employes to hospitals and sick camps, and employes sick in quarters during the month were 1,664 white and 1,416 colored, total 3,080, as against 1,885 white, and 1,116 colored, total 3,001, for February, 1909. The average per thousand of admissions of employes to hospitals and sick camps, and employes sick in quarters was 144 white, 36 colored, 61 both, as against 153 white, 36 colored, 69 both, for February, 1909.

No cases of yellow fever, plague or smallpox, originated on, or were brought to the Isthmus, during the month, and the general health conditions continued excellent.

General.

The force actually at work for the Commission on February 23 was 29,814, and for the Panama Railroad Company, 7,644, a total of 37,458, constituting the largest force employed to date. During the month the total additions to the gold force were 264, and the total separations 221, making the net additions 43.

Respectfully,
GEO. W. GOETHALS, *Chairman.*

Notice to Shovel and Dredgemen.

Panama Local No. 5, A. W. of S. S. and D. M., will hold a meeting on Sunday, March 27, at 2.30 p. m., in the Commission lodge hall at Culebra. All members are requested to attend.

WILLIAM P. WHEELER,
Secretary and Treasurer.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Gorgona, C. Z., on Sunday, March 27, 1910, at 6 p. m. The program follows:

1	March—*Chicago Tribune*	Chambers
2	Selection—*Prima Donna*	Herbert
3	*a* Popular Rag—*Russian Pony*	Ramsay
	b Two Step—*Mollie Lee*	Morse
4	Overture—*Comique*	Keler Bela
5	Reverie—*Sicilian Chimes*	Mills
6	Medley Selection—*Kerry Mills' Latest Songs*	Schulz

Introducing—"Yes She Did," "Under the Chicken Tree," "I'm Tired of Living Without You," "Take Me Out for a Joy Ride," "Where Were You Last Night," "You'll Have to Ask Mother," "Pass Dat Possum," "When a Pal of Mine Steals a Girl of Mine," "The Longest Way 'Round is the Sweetest Way Home," "Lonesome," "Rag Time Dance," "Don't Be an Old Maid, Molly," "A Georgia Barn Dance," "We're Almost Home," and "Sun Bird."

7	Paraphrase—*Nearer, My God, to Thee*	Reeves
8	Intermezzo—*Flower Girl*	Wenrich
9	Selection—*Faust*	Gounod
10	March—*L'Esperance*	Bonniseau

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Nombre de Dios, on Sunday, April 3.

SOCIAL LIFE OF THE ZONE.

Women's Clubs, and Other Features.

The literary meeting of the Cristobal Woman's Club was held in the clubhouse on Wednesday afternoon, March 16, when a paper on life in European and Asiatic Russia was read by Mrs. Henry Ropes Trask. Photographs, and specimens of hand work and silver were exhibited. The Cecelian Ladies' Chorus sang two selections. The program was in charge of the art and literary department, of which Mrs. A. O. Herman is the chairman. The program scheduled for the meeting on April 6, consists of a paper on educational systems to be read by Mr. F. A. Gause, Superintendent of the Canal Zone schools. On April 30, the annual meeting, with election of officers, will be held, after which the club season will be closed for the summer. Meetings will be resumed in October.

The Gatun Woman's Club held its meeting on Friday, March 18, in the clubhouse. The program, in charge of the literary department, Mrs. A. P. McCulloch, chairman, consisted of a paper on the accomplishments of the General Federation of Women's Clubs in 1909, and the outlook for the present year, read by Mrs. J. H. Stevenson, and a short paper on the ethics of modern American journalism, read by Mrs. Underhill. A rhyming contest was a feature, prizes being won by Mrs. Brownell and Mrs. Hanna. It was decided to change the hour of meeting to 2.30 p. m., and to begin promptly at that hour. The next meeting of the club will be on Friday, April 1, when there will be an election of officers. Rev. William H. Cross will deliver an address on life in Mexico, and there will also be a musical program.

At the meeting of the Empire Woman's Club on Thursday, March 17, the chairmen of committees for the Federation meeting in April were appointed as follows: Mrs. W. H. Butler, decorations; Mrs. W. H. Decker, music; Mrs. J. H. Westberg, refreshments. Mrs. Bryan and Mrs. Smith constitute the committee on arrangements for the luncheon. The club has under consideration the establishment of a circulating library for members and others. It is proposed, if a suitable place can be secured, to equip a library and reading room, both to be opened daily, at stated hours. The club will appoint librarians from its members in charge of the work, and a committee has been named to make arrangements for the carrying out of the project. The formation of a ladies' chorus and dramatic department is also under consideration, and committees were appointed to perfect the plans. Three department chairmen have been appointed: Mrs. Decker, home; Mrs. Bryan, philanthropy, and Mrs. Westberg, education. The home department has in mind the question of providing an afternoon of amusement for the younger children of the members. The meeting closed with five minute talks. Mrs. Bryan of the Woman's Club, Pekin, Ill., spoke on the Canal Zone Women's Clubs, their effectiveness, and some suggestions for improvement, and Mrs. Westberg spoke on the home.

The Gorgona Woman's Club held a reception at the Commission clubhouse on Friday evening, March 18, in honor of the clubhouse secretary, Mr. T. S. Booz, and Mrs. Booz. The hall was decorated with palms, potted plants, ferns and flags. Mrs. Harry Otis, president of the club, Mr. Leroy Smith, and Mr. and Mrs. Booz received, standing beneath a canopy of flags. Mrs. E. H. Everist was chairman of the social committee. There was a program, consisting of songs by Mrs. James Murray, Mrs. Pierson, Miss Anderson and Miss Ethel Otis; a recitation by Miss Janie Calvit; selections by the Gorgona male quartet; a sketch by Messrs. McRea, Emery and Hayes, and addresses by Mr. Clarence J. Hicks, Mr. Charles R. Drum, Mr. Floyd S. Freeman, and Mr. Booz. The Gorgona orchestra and Gorgona mandolin club also played several selections. The club presented Mrs. Booz with a drawn linen table cover.

Church Work.

There will be special services at the Methodist Episcopal Church in Panama on Easter Sunday morning at 10 o'clock. In the evening, the Woman's Foreign Missionary Society will have charge of the service. The first quarterly meeting of the year will be held in the church on Sunday morning, April 3, at 10 o'clock. A general invitation is extended.

There will be services at St. Luke's Episcopal Church, Ancon, on Good Friday, at 9 a. m., and at 8 p. m. A celebration of the Holy Communion will be held at the church Saturday morning, March 26, at 7 o'clock. The Easter services will be as follows: Holy Communion at 6 and 7 a. m.; morning prayer at 10 a. m., and evening prayer with sermon at 8 p. m. The offerings at all of these services will be devoted to the organ fund.

PERSONAL.

Gen. William Crozier, chief of ordnance; Gen. W. L. Marshall, chief of engineers, accompanied by Mrs. Marshall and daughter, and Mrs. R. C. Marshall; Gen. Arthur Murray, chief of coast artillery, with Mrs. Murray and daughters; and Capt. Stanley Embick, with Mrs. Embick, arrived at Cristobal on the steamship *Ancon*, on Thursday, March 17. Generals Crozier, Marshall and Murray are members of the Canal Fortification Board. Capt. Embick will act as recorder of the Board vice Maj. William G. Haan.

Lieut-Col. D. D. Gaillard returned on the *Prinz Joachim*, Tuesday, March 15, from a trip to Costa Rica.

OFFICIAL CIRCULAR.

Good Friday a Holiday.

CULEBRA, C. Z., March 19, 1910.

CIRCULAR NO. 313:

So far as consistent with the transaction of public business, Friday, March 25 (Good Friday), will be observed as a holiday in the Canal Zone.

Good Friday is not included in the list of holidays for which gratuity pay is allowed, and pay for services performed on that day will be calculated the same as for Sundays.

Holy Thursday will be considered an ordinary working day and payment made accordingly.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

LOST—At Panama railroad station in Colon, about 9.45 a. m., on Sunday, March 13, a Mexican engraved purse with dark brown collar, containing nineteen money orders, payable at the Empire post-office; also, money order receipts. Finder is requested to communicate with Charles Walker, U. S. M., Empire, C. Z. Reward will be paid upon recovery.

LOST—On Saturday afternoon, March 19, on Dock 11, or within five or six blocks of same, one of a pair of collar pins, with nine small pearls set in black onyx, oblong shape. Finder please advise Mrs. D E. Hughes, House 218-D, Cristobal and receive reward.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

The league indoor baseball game scheduled for last Saturday night with Empire was postponed until a later date. Cristobal will play at Culebra on Saturday night, March 26.

A new barber has been employed for the Culebra clubhouse, and the barber shop will be open every day from 10 a. m., until 2 p. m., and from 5 p. m., until 10 p. m.

The pool tournament closed last week, Mr. E. J. Vogel winning the gold medal.

The local duck pin bowling tournament will close this week, and the scores will appear in the next issue of THE CANAL RECORD.

EMPIRE.

The winners of the Isthmian duck pin championship tournament are as follows:

Singles—E. M. Goolsby, Empire, first, 305; H. Coben, Empire, second, 284; J A. Barte, Gatun, third, 276.

Doubles—H. M. Pierson and G. E. Gustavson, first, 552; W. A. Fishbaugh and J. A. Shaughnessy, second, 545; H. Rodeghiero and L. W. Giavelli, third, 539.

High score, 107, was rolled by E. M. Goolsby.

On Tuesday evening of this week, a moving picture entertainment was given in the Y. M. C. A. hall. Mrs. Ludwig sung several popular airs, accompanied by Mrs. M. G. Shivers.

The attendance at the Tuesday evening Bible class was 20 last week.

On Friday night of this week, the third of the series of lectures on Isthmian history will be given by Professor Carr. Members are reminded that their membership cards will entitle them to admission.

On Monday night, March 28, the social committee has arranged for a smoker, with a novel program, to be given to the members of the Empire Y. M. C. A. This notice is the members' invitation to be on hand.

CRISTOBAL.

The last game of the local basketball league was played on Monday night, March 17, between the "Head-Liners" and "Swastika Five," resulting in a score of 26 to 19 in favor of the "Swastika Five." The "Knut-Splitters" won the largest number of games and will be awarded the team trophy, a cup from Spaulding Bros., and a gold medal for each member of the team.

The basketball game played Wednesday night between the New York team and the Indiana team, was won by the New York team by a score of 16 to 12.

Thirty men are being tried out for the minstrel show. Mr. Pack is director, assisted by Mr. Rattery, and by Mr. Jennings, as musical director.

The Bible class under the leadership of Mr. Stuntz, meets every Wednesday with eight men registered as charter members. Jugde Brown's class meets every Thursday night with twenty-one men. The text books arrived a few days ago, and the regular work has been taken up.

The lectures on Isthmian history given by Professor Carr on Monday nights are proving very profitable and interesting.

A "drop in" meeting will be held each Sunday afternoon, from 2.15 to 3 o'clock, in charge of Mr. A. J. Goddard. The topic for March 27, is "Opportunity."

Fifty books from the Cristobal library have been transferred to Nombre de Dios for the use of the men there.

GATUN.

A mock city election was held at the clubhouse last Saturday night, the nominees on the three tickets placed in the field being as follows:

Democratic ticket—For mayor, Maj. Chester Harding; city judge, F. P. Selby; city attorney, H. A. Porter; treasurer, E. S. Waid; chief of police, "Sure Shot" Dick Harrington; fire chief, J. H. Hanna; aldermen, E. C. Eggleston, F. J. Harry, Dick Cole, Captain Fink; dog catcher, Sam Perkins.

Prohibition ticket—For mayor, George B. McPherson; city judge, R. M. Sands; city attorney, R. M. Gamble; treasurer, William Bryan; chief of police, Fletcher Stevens; fire chief, Captain Brown; aldermen, Nat. Johnson, H. M. Reid; C. H. Ourand, Tim. Donahue; dog catcher, F. Hertz.

Reformers ticket—For mayor, Maj. G. M. Hoffman; city judge, O. S. Durfee, city attorney, R. F. Scoffern; treasurer, J. H. Adams; chief of police, C. J. Carty; fire chief, D. C. Chamberlain; aldermen, Joe Painter, H. G. E. Schreiber, J. H. Short, C. C. Collins; dog catcher, W. H. H. Brady.

The Democratic ticket, headed by Major Harding, was elected. The successful candidate for mayor received a majority of seven votes over Mr. McPherson, and eleven votes over Major Hoffman. F. J. Harry, one of the successful candidates for alderman received 104 votes, the highest number cast for one man.

The basketball and indoor baseball teams have been practicing regularly during the last few days preparatory to the games scheduled for this week, as follows: Indoor baseball league game with Empire on Wednesday night, and basketball with Cristobal on Friday night.

Rainfall, March 1 to 19, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	.40	15	.41
Balboa	43	12	.43
Miraflores	.05	15	.05
Pedro Miguel	.00	00	.00
Rio Grande	.07	16	.15
Central Section—			
Culebra	.04	15	.12
Camacho	.12	16	.21
Empire	.08	5	.11
Gamboa	.03	6	.12
Alhajuela	.13	15	.18
El Vigia	.18	16	.27
Gorgona	.06	8	.14
San Pablo	.44	5	.85
Tabernilla	.27	5	.78
Bohio	.79	4	1.59
Atlantic Section—			
Gatun	.49	16	1.81
Brazos Brook	1 05	16	2.53
Cristobal	.26	15	.82
Porto Bello	.76	5	2.06

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, March 19, 1910.

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft.	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Mar. 13	126.6	93.5	46.9	3.1	0.9	0.6
Monday, Mar. 14	127.0	93.8	47.2	3.5	0.9	0.6
Tuesday, Mar. 15	126.6	93.8	47.2	3.7	1.4	0.8
Wed'esday, Mar. 16	127.6	94.4	47.3	3.1	1.2	0.8
Thursday, Mar. 17.	127.4	94.4	47.6	4.5	1.6	1.0
Friday, Mar. 18	126.4	93.6	46.9	3.5	1.4	0.9
Saturday, Mar. 19	126.3	93.4	46.8	3.9	1.2	0.6

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending March 30, 1910 (75th meridian time):

DATE.	Low.	High.	Low.	High.	Low.
	A. M.	A. M.	A. M.	P. M.	P. M.
March 24	....	3.13	9.17	3.36	9.43
March 25	....	3.54	9.58	4.11	10.20
March 26	....	4.30	10.35	4.43	10.55
March 27	....	5.03	11.09	5.14	11.28
March 28	....	5.33	11.41	5.43	MDNT. 12.00
March 29	....	6.02	P. M. 12.12	6.10	....
March 30	12.30	6.29	12.42	6.38	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

BASEBALL.

ISTHMIAN LEAGUE.

RESULTS OF GAMES, MARCH 20.

Empire, 11; Ancon, 6.
Gorgona, 16, Marines, 0.

STANDING OF CLUBS.

	F.	*W.*	*L.*	*Pc.*
Empire	17	13	4	.765
Gorgona	18	12	6	.666
Ancon	16	7	9	.440
Marioes	19	3	16	.158

SCHEDULE FOR MARCH 27.

Marines at Empire.
Ancon at Gorgona.

Empire.	AB.	H.	PO.	A.	E
Dixon, ss	2	2	3	3	0
Bryan, 3b	3	0	3	0	0
S. Fluh'ty, rf 2b	5	1	4	1	1
Bell, 1b	3	1	7	0	1
E. Fluh'ty, lf	5	1	4	0	0
Markley, 2b, c.	3	0	2	2	0
Murphy, cf	5	3	2	2	0
Lyon, c	2	0	2	0	0
Marshall, p	5	0	0	4	0
Toone, rf	3	0	0	0	0
Totals	36	8	27	12	2

Ancon.	AB.	H.	PO.	A.	E
Pearman, 3b	2	1	1	1	1
Drennan, rf, cf	3	2	2	0	0
Tinsley, ss, p.	4	1	1	5	1
Smith, 1b, c	5	3	10	1	0
Snyder, 2b	3	0	4	1	0
Keller, lf	3	0	0	0	0
Hunter, cf, ss.	5	2	1	0	2
Frampton, c, rf	5	2	2	0	0
Nygren, p, 1b.	5	0	5	3	0
Poltrino, lf	1	1	1	0	1
Totals	36	12	27	11	5

Empire	1	0	0	3	0	0	4	3	0—11
Ancon	2	0	0	4	0	0	0	0	0— 6

Runs—Empire: Dixon (2), Bryan (2), S. Fluharty (2), E. Fluharty, Markley, Lyon, Marshall (2); Ancon: Pearman (2), Drennan, Tinsley, Hunter, Frampton. Runs earned—Empire 5; Ancon, 3. Two base hits—Tinsley, Smith, Murphy. Three base hits—Dixon, Murphy. Sacrifice hits—Dixon, Bryan, Bell, Drennan. Stolen bases—Dixon (2), S. Fluharty (2), Bell, Pearman, Smith, Snyder, Frampton. Bases on balls—Off Marshall, 6; off Nygren, 2; off Tinsley, 3. Struck out—By Marshall, 2; by Nygren, 1, by Tinsley, 4. Hit by pitcher—By Marshall—Tinsley, Snyder, Keller; by Nygren—Dixon. Left on bases—Empire, 7; Ancon, 11. Double play—Murphy to S. Fluharty. Umpire—Bain. Time of game—2.05. Scorer—J. K. Munroe.

Gorgona.	AB.	H.	PO.	A.	E
W. Clem'nts, cf	5	1	1	0	0
Case, p	3	1	0	4	0
Magee, lf	6	3	0	0	0
Barney, c	5	3	9	0	0
Wright, 1b	4	1	10	0	0
Emery, 3b	4	1	2	1	0
A. Ridge, ss	4	1	2	3	0
J. Ridge, 2b	4	0	2	1	1
Heltemes, rf	4	1	1	0	0
Totals	39	12	27	9	1

Marines.	AB.	H.	PO.	A.	E
Lubomski, lf.	4	2	2	0	1
Burke, 1b	4	0	9	0	0
Snyder, cf	4	0	1	0	1
Todd, rf	4	0	0	0	0
Walsh, ss	2	0	0	1	1
Llewellyn, p	2	1	1	0	0
O. Clements, 2b	2	1	1	1	2
Deffany, 2b	1	0	0	1	0
Geogleim, 3b	4	0	0	0	1
Munsen, p, ss.	3	1	0	3	1
Conway, c	2	0	7	0	1
Jescki, c	1	0	2	1	1
Totals	33	5	23*	7	9

*Wright out, hit by batted ball.

Gorgona	3	0	1	3	1	2	3	3	x—16
Marines	0	0	0	0	0	0	0	0	0— 0

Runs—Gorgona: W. Clements (2), Case (3), Magee (3), Barney (3), Wright (2), Emery, J. Ridge, Heltemes. Runs earned—Gorgona, 5. Two base hits—W. Clements, A. Ridge, Heltemes. Home run—Barney. Sacrifice hit—W. Clements. Sacrifice fly—Emery. Stolen bases—A. Ridge, J. Ridge, W. Clements (2), Case, Magee, Barney (3), Wright (2), Emery (3). Bases on balls—Off Munsen, 2; off Llewellyn, 5. Struck out—By Case, 9; by Munsen, 5; by Llewellyn, 6. Left on bases—Gorgona, 8; Marines, 6. Passed balls—Conway (2). Umpire—Foster. Time of game—2. Scorer—D. G. Haves.

ATLANTIC LEAGUE.

RESULT OF GAME, MARCH 20.

Civil Administration, 10; Colon, 9 (12 innings.)

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*
Com-Sub	9	8	1	.889
Civ. Adm	8	4	4	.500
P. R. R	9	4	5	.445
Colon	8	1	7	.125

SCHEDULE FOR MARCH 25.

Civil Administration vs. Panama Railroad.
Commissary-Subsistence vs. Colon.

SCHEDULE FOR MARCH 27.

Com.-Subsistence vs. Civil Administration.

Colon.	AB.	H.	PO.	A.	E
Calvert, cf	7	1	0	2	0
Morton, ss	5	1	2	2	1
Herring, c	7	0	13	1	0
Kenney, 1b	6	0	11	0	0
Cleary, 2b	6	3	4	4	2
Souders, lf	7	2	2	0	0
Bailey, 3b, rf, p	5	0	1	2	0
Stevens, rf	3	0	0	0	0
Weber, 3b	2	2	2	0	2
Goree, p, rf	6	2	0	3	0
Totals	54	11	35*	14	5

C. A.	AB.	H.	PO.	A.	E
Morrell, lf	6	3	3	0	0
Farrar, cf	4	2	2	0	0
Reiss, ss	7	2	1	1	2
Yingling, c	4	0	12	1	0
Fleichman, 3b	6	2	1	3	2
Bath, rf, 2b	6	1	1	1	0
Earle, 2b, rf	5	2	3	1	3
Rex, rf	1	1	0	0	0
Ellington, 1b.	5	1	10	0	4
Russell, p	1	0	0	2	0
Edwards, p, 1b	5	3	3	7	0
Totals	50	17	36	16	11

*Two out when winning run was scored

Colon	0	0	0	0	3	0	0	4	2	0	0	0— 9
Civ. Admin	1	0	2	0	0	4	2	0	0	0	0	1—10

Runs—Colon: Calvert, Morton, Herring, Kenney (2), Bailey, Weber (2), Goree; C. A.: Morrell (3), Farrar (3), Reiss, Fleichman (2), Edwards. Runs earned—C. A., 1. Two base hits—Cleary, Weber. Three base hits—Fleichman, Cleary. First base on errors—Colon, 9; C. A., 5. Sacrifice hits—Farrar, Morton. Sacrifice fly—Fleichman. Stolen bases—Farrar, Fleichman, Morton. Bases on balls—Off Edwards, 3; off Russell, 1; off Goree, 1; off Bailey, 4. Struck out—By Edwards, 5; by Russell, 6; by Goree, 3; by Bailey, 6. Hit by pitcher—Farrar, Yingling, Bath, Edwards, Morton. Left on bases—C. A., 16; Colon, 15. Double plays—Earle to Reiss to Ellington; Bath to Ellington; Bailey to Cleary to Kenney. Passed ball—Herring. Umpire—Rohr. Time of game—2.55. Scorer—Rennard.

Other Games.

An exhibition game of baseball will be played between the Ancon team of the Isthmian League, and the Commissary-Subsistence team of the Atlantic League, at the Colon park on Friday morning, March 25. It will be called promptly at 10 o'clock.

A boys' baseball team known as the Ancon juniors, will play a boys' team from Cristobal at the Ancon park, Friday morning, March 25, at 10 o'clock.

COMMISSARY DEPARTMENT.

Commissaries Closed on Good Friday.

The following notice has been posted at the Commissaries:

Cristobal, C. Z., March 21, 1910.

This Store will be closed on Friday, March 25 (Good Friday.)

Patrons will be guided accordingly in placing their orders.

JOHN BURKE, *Manager.*

Approved: EUGENE T. WILSON,
Subsistence Officer.

Quarterly Inventory.

CRISTOBAL, C. Z., March 22, 1910.

CIRCULAR NO. 163:

This store will be closed March 31, for the purpose of taking the regular quarterly inventory. The grocery and cold storage departments will be opened not later than 9 a. m., April 1. Other departments will remain closed until proper and careful inventory is taken by storekeeper and checked by Local Auditor.

JOHN BURKE, *Manager.*

Approved: EUGENE T. WILSON,
Subsistence Officer.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning March 24:

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (8 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (6 to 8 pounds)	per lb	24
Chops	per lb	26
Cutlets	per lb	25
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	20
Beef—Suet	per lb	2
Soup	per lb	5
Stew	per lb	9
Corned	per lb., 12, 14,	16
Chuck roast	per lb	13
Pot roast	per lb	15
Rib-roast, second cut (not under 3½ pounds)	per lb	18
Rib-roast, first cut (not under 3 pounds)	per lb	20
Sirloin roast	per lb	21
Rump roast	per lb	21
Porterhouse roast	per lb	21
Steak, Chuck	per lb	14
Round	per lb	15
Rib	per lb	20
Sirloin	per lb	21
Porterhouse	per lb	21
Rump	per lb	21
Tenderloin	per lb	24

MISCELLANEOUS.

Livers—Beef	per lb	8
Calf	each	60
Half	each	30
Sausage—Pork	per lb	17
Bologna	per lb	14
Frankfurter	per lb	14
Leberwurst	per lb	14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	25
Oysters, in 1-quart kegs	keg	55
Oysters, in ½-gallon kegs	keg	90
Eggs, fresh	dozen	*30

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, large	each	1.50
medium	each	1.30
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese	each	2.50
Rabbits	each	50
Pheasants	each 70,	1.00
Partridges	each	50
Grouse	each	85

CURED AND PICKLED MEATS.

		Price.
Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Ham—Sugar cured	per lb	20
Sugar-cured, sliced	per lb	24
Half, for boiling	per lb	21
Boiled	per lb	26
Hocks	per lb	‡8
Bacon—Breakfast, whole piece	per lb	24
Breakfast, sliced	per lb	25
Beef, salt, family	per lb	9
Pork, salt, family	per lb	15
Ox tongues	each	80
Pigs' feet	per lb	8
tongues	per lb	16
Mutton, mess	per lb	7

DAIRY PRODUCTS.

Butter—Creamery special	per lb	40
Cheese—Roquefort	per lb	38
Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	26
Edam	each	1.00
Neufchatel	each	6
Gouda	per lb	34
Milk, Briarcliff	bottle	**25
Butter	bottle	**15

VEGETABLES AND FRUITS.

Celery	per hd	8
Lettuce	per hd 8, 11,	14
Cucumbers	per lb	25
Potatoes, white,	per lb	3
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	3
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	3
Cabbage	per lb	3
Rhubarb	per lb	10
Lemons	dozen	24
Apples,	per lb	6
Tangerines	each	2
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Supplies for Canal Work.

The following steamers, with supplies for the Isthmian Canal Commission, arrived at the ports of Cristobal and Colon, during the week ending March 19, 1910:

Colon, March 13, from New York, with 12 packages medical supplies for Sanitary Department; 5,000 barrels cement and 8 cases machinery for Atlantic Division; 142 cases electric fuses, and 27 tons castings for Central Division; 42 cases bolts for Gatun and Miraflores Locks; 16 tons castings for dry dock store; 31 packages pumps, 500 garbage cans, 136 coils rope, 22 tons bolts and bars, 15 crates water gates, 26 crates brooms, 82 tons W. I. pipe, 52 tons steel plate, 50 bales rubber hose for stock: and a miscellaneous cargo consisting of 7,596 packages, weighing 1,365 tons.

Ellis, March 14, from New Orleans, with 800 cases kerosene oil for stock.

Sibiria, March 15, from New York, with 10 tons steel plates for Gorgona shops; 8 tons brass tubes for stock.

Kiora, March 16, from Mobile and Gulfport, with 29,005 feet untreated piling for Atlantic Division; 17,791 cross-ties for stock.

Ancon, March 17, from New York, with 35,000 barrels cement for Atlantic Division; 60,000 bags cement for Pacific Division; 500 bundles shovels for stock.

Abangarez, March 17, from New Orleans, with 1,990 cross-ties, 100 crates paste, 37 reels wire cable, 25 bales cotton waste, 175 switch ties, and 81,614 feet Y. P. lumber for stock; 6,759 feet W. O. lumber for car repairs, Gorgona; 180,122 feet Y. P. lumber for dry dock store stock; 9,356 feet W. O. lumber for Pacific Division.

Almirante, March 18, from New York, with 144 tons hay, and 9 tons washers for stock.

Antares, March 19, from Mobile and Gulfport, with 400 tons pig-iron for Gorgona foundry; 15,000 cross-ties, and 20 tons hay for stock; 176 bridge ties for Pacific Division; 968 pieces W. O. lumber for car repairs, Gorgona.

Advance, March 19, from New York, with 7 tons rubber hose, 25 tons frogs and braces, 6½ tons sheet copper, 54 tons steel plates, 23 tons bolts and nuts, 8 tons pipe-fittings, and 240 barrels alum for stock; 120 cases absorbent cotton, and 66 packages medical supplies for Sanitary Department; 20 cases electrical material, and 62 tons plates for Pacific Division; 17 reels wire and wire rope for Atlantic Division; 15 tons castings for Gorgona shops; 32 cases electric fuses for Central Division; and a miscellaneous cargo consisting of 3,388 packages, weighing 444 tons.

FOUND—In Panama, on March 16, package containing drawn work. Owner may recover same by calling, or writing and describing it. Mrs. J. L. Chambers, house 24-A, Gorgona, C. Z.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Panama	P. R. R.	Friday	Mar. 18
Cristobal	P. R. R.	Friday	Mar. 18
Allianca	P. R. R.	Thursday	Mar. 24
Colon	P. R. R.	Thursday	Mar. 31

CRISTOBAL TO NEW YORK.

Advance	P. R. R.	Friday	Mar. 25
Ancon	P. R. R.	Friday	Mar. 25
Panama	P. R. R.	Thursday	Mar. 31
Allianca	P. R. R.	Wednesday	Apr. 6
Colon	P. R. R.	Tuesday	Apr. 12

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

NEW YORK TO COLON.

Santa Marta	U.F.C.	Thursday	Mar. 17
Oruba	R.-M.	Saturday	Mar. 19
Metapan	U.F.C.	Thursday	Mar. 24
Prinz Joachim	H.-A.	Saturday	Mar. 26
Zacapa	U.F.C.	Thursday	Mar. 31
Magdalena	R.-M.	Saturday	Apr. 2
Prinz Aug. Wilhelm	H.-A.	Saturday	Apr. 9
Clyde	R.-M.	Saturday	Apr. 16
Prinz Joachim	H.-A.	Saturday	Apr. 23
Atrato	R.-M.	Saturday	Apr. 30

COLON TO NEW YORK.

Magdalena	R.-M.	Wednesday	Mar. 23
Santa Marta	U.F.C.	Sunday	Mar. 27
Prinz Aug. Wilhelm	H.-A.	Tuesday	Mar. 29
Metapan	U.F.C.	Sunday	Apr. 3
Clyde	R.-M.	Wednesday	Apr. 6
Zacapa	U.F.C.	Sunday	Apr. 10
Prinz Joachim	H.-A.	Tuesday	Apr. 12
Thames	R.-M.	Wednesday	Apr. 20
Prinz Aug. Wilhelm	H.-A.	Tuesday	Apr. 26
Prinz Joachim	H.-A.	Tuesday	May 10

NEW ORLEANS TO COLON.

Atenas	U.F.C.	Saturday	Mar. 19
Turrialba	U.F.C.	Saturday	Mar. 26
Abangarez	U.F.C.	Saturday	Apr. 2

COLON TO NEW ORLEANS.

Atenas	U.F.C.	Tuesday	Mar. 29
Turrialba	U F.C.	Tuesday	Apr. 5
Abangarez	U.F.C.	Tuesday	Apr. 12

COLON TO BARBADOS, CALLING AT TRINIDAD.

Oruba	R.-M.	Tuesday	Mar. 29

The next sailing of the Leyland Line will be as follows: *Jamaican* for New Orleans, via Kingston, Ja., on or about April 9.

Hamburg-American steamers leave Colon for New York, via Kingston, every other Tuesday at 10 a. m., and for Port Limon, Costa Rica, every other Wednesday at 2 p. m.

All Royal Mail steamers mentioned above leave early in the morning from Colon, via Kingston, Jamaica, for New York. All mail and passengers should be on board early on day of sailing.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The United Fruit Company has a steamer leaving Colon every Sunday at 5 p. m., for New York City, via Santa Marta and Kingston, Jamaica; returning, steamers from New York for Colon touch at Kingston, Jamaica.

The following vessels arrived at, or departed from, the port of Balboa during the week ending March 19:

Arrivals—March 12, *Arica*, from Guayaquil; March 14, *City of Para*, from San Francisco; March 16, *Saturn* (U. S. Collier), from Corinto; March 17, *Mexico*, from south ports.

Departures—March 13, *Loa*, for south ports; March 14, *Guardian* (cable ship), for south ports; March 16, *City of Panama*, for San Francisco; *Quito*, for intermediate ports; March 17, *Chiriqui*, for Buenaventura and Tumaco.

LOST—In Cristobal, or Colon, on March 17, a brooch set with a number of pearls and one opal. Finder is requested to return the article to house No. 52, Cristobal, C. Z., and receive reward.

CANAL RECORD

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Address all Communications

THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Changes in Mechanical Division.

Changes in the organization of the Mechanical Division, under the direction of the Electrical Engineer and Master Mechanic, have been authorized to take effect on May 1.

In the organization controlling outside plants, other than those devoted to the repair of cars, the position of superintendent of engine houses and air compressors will be abolished and the air compressor plants will be placed under the control of the superintendent of electric light plants. The foremen of the Pedro Miguel, Las Cascadas and Tabernilla engine houses will report direct to the Master Mechanic who will personally supervise their work, and the foreman of the Las Cascadas engine house will have charge of the work both at that point and at Gamboa engine house. The changes authorized in the plants referred to will save $400 a month in salaries, and by placing the work in the engine houses directly in charge of the foremen will probably increase the effectiveness of those plants.

The car repair work done outside the shops at Gorgona consists of the inspection of cars used in the Central Division and the tagging and repair of those unfit for service. At present the repair work is carried on at Balboa, Pedro Miguel, Gamboa, Las Cascadas and Tabernilla yards. This work will be concentrated at Pedro Miguel and Gorgona, the repairing at Las Cascadas will be discontinued, and the work at Gamboa will be reduced to a minimum. The position of master car builder, the official under whose supervision the outside work has been carried on, will be abolished and the supervision will be placed under the general foreman of the car and foundry department of Gorgona shops. A chief car inspector will be appointed and the inspection of cars will continue as at present, but the number of car repairers along the line from Tabernilla to Balboa will be reduced.

The clerical work at Gorgona shops will be handled by one less man. The total saving in salaries from the proposed changes will be $625 a month, but the chief economy will be in more effective work.

Record Steam Shovel Excavation.

On March 22, 1910, steam shovel No. 213 in the Culebra District of the Central Division, broke all records by excavating 4,823 cubic yards of rock and earth, place measurement. This material was loaded on 235 Lidgerwood cars.

	Minutes.
Time loading	320
Moving up 20 times, 5 minutes each	100
Waiting for cars	55
Coaling shovel	5
Total	*480

*Or eight hours.

The following employes comprised the crew of this shovel:

J. L. Davies, steam shovel engineer; T. J. Scoville, steam shovel craneman; Edward Ward, pit foreman; Leon de Silva, Daniel Fitzgerald, Norman Austin, Manuel Shoy, Eli Titus, Albert Best, William Quash, James Bailey, pitmen; Alfred Dickson, Percy McCollen, firemen.

The cost for labor for running the shovel on this day was $30.21, and the cost for supplies was $24.59, making a total expense of $54.80, itemized as follows:

LABOR.		
1 Engineer, one day at $7 56	$7.56	
1 Craneman, one day at $6.48	6.48	
1 Foreman, one day at $2.83	2.83	
2 Firemen, one day each at $1.67	3.34	
1 Laborer, 8 hours at 13 cents	1.04	
7 Laborers, 8 hours each at 16 cents	8.96	
		$30.21
SUPPLIES.		
5¼ tons of coal at $4.41	$23.15	
3 gallons of car oil at 18 cents	.54	
2 gallons of valve oil at 31 cents	.62	
2 pounds of cup grease at 10 cents	.20	
1 pound of gear grease at 8 cents	.08	
		$24.59
Grand total		*$54.80

*Or 1.14 cents per cubic yard.

Central Division Dynamite Records.

The records of the office of the Division Engineer of the Central Division show that 473,965 pounds of dynamite were used during the month of January, 1910, as compared with 578,000 pounds in January, 1909, although in the former month, 1,132,576 cubic yards of rock were excavated, as compared with 1,032,016 cubic yards in January, 1909. The comparison shows further that 2.39 cubic yards of rock were excavated per pound of explosive used, in January, 1910, as compared with 1.79 cubic yards for January, 1909, a gain of over 33 per cent in rock excavated per pound of explosive used.

The showing is still more pronounced in the February comparison. The total of dynamite consumed in February, 1910, was but 375,600 pounds, as compared with 625,150 pounds in February, 1909, while the amount of rock excavated in February, 1910, was 1,133,136 cubic yards, as compared with 1,037,645 cubic yards in February, 1909. This shows that 3.02 cubic yards of rock were excavated per pound of explosive used in February, 1910, as compared with 1.66 cubic yards for February, 1909, a gain of 82 per cent in rock excavated per pound of explosive used.

While accurate for the amount of dynamite used and for the amount of material excavated, the figures relative to the quantity of material removed per pound of explosive used, are not cited as absolutely accurate, for the reason that during the dry season the steam shovels gain on the mining, but as the rate of gain, so far as can be ascertained, was about the same in February, 1910, as in February, 1909, the comparative ratio would differ but little for the months in question. The figures show clearly that the amount of dynamite used in the Central Division has decreased, and that the decrease is more marked when the quantity of material excavated is taken into consideration.

Low Humidity and Temperatures.

A humidity of only 24 per cent was recorded at Culebra at 1.30 p m., on March 20, which is 7 per cent less than the previous lowest humidity of record in the Canal Zone, that of May 2, 1907 at Bas Obispo, when the observation showed 31 per cent. A minimum temperature of 60 degrees was recorded at Rio Grande reservoir about 6 a. m., on March 21. The lowest temperature previously recorded in the Canal Zone by the American observers was 59 degrees at Bas Obispo on February 9, 1907.

Lock Work at Pedro Miguel.

The most prominent feature of concrete construction at the Pedro Miguel Locks at present is the south guide wall, which will be completed to its ultimate height, 67 feet above mean sea level, within the next three weeks. The length under construction is 1,000 feet, but an extension remains to be made to the south end. At this end, the wall is at elevation 62 feet, or within five feet of the top. The structure is 58 feet wide and consists of two parallel walls with vertical outside faces, their backs being stepped in toward the top. The hollow space between the sides will be filled in with selected rock.

The mixer equipment at the locks will be increased by the addition of two 2-cubic yard mixers, to be located in the north forebay, one at the south end of each storage trestle. The new mixers will supply concrete for the construction of the head walls, and the forebay track system will be extended to include them. A small amount of excavation still remains to be done to prepare the site for the head walls, and this will be handled by derrick and bucket. It has been decided

NOTES OF PROGRESS.

(Continued.)

to make an extension of 30 feet to the south end of each storage trestle, thus providing additional capacity for rock and sand.

Crane construction is more than two-thirds completed. Crane No. 2 in the east chamber is finished and in use temporarily handling bucket excavation. The structural work on the first of the two chamber cranes in the east chamber is practically completed, and the structural work on the second berm crane is about 85 per cent completed.

Concrete operations in the west chamber now center in the construction of the side and middle walls. In excavating the lock pit, a rock core was left in the middle wall. Some concrete has been placed in this wall up to the culvert level, and hand excavation is in progress preparatory to concreting the batter sections at the base. As soon as this is completed the chamber cranes can be set at work to their full capacity placing concrete in both the side and middle walls. Work on the side wall culvert system is continuing, this section taking at present most of the output of the berm crane mixer.

In the east chamber, concrete has been placed in 10 of the lateral culverts, and a derrick is being rigged to place concrete in the east side wall at the point where a slide in the bank recently developed. It is proposed to build a section of this wall high enough before the heavy rains set in to check further land slips.

The amount of concrete placed, and of large stones laid in mass, during five days of eight hours, for the week ending March 26 was as follows:

	CUBIC YARDS.	
	Rock.	Concrete.
March 21	30	794
March 22	6	794
March 23	1	745
March 24	10	877
March 25 (Holiday)		
March 26	12	804
Total	59	4,014
Previously reported	318	75,349½
Grand total	377	79,363½

Concrete Tanks for Water Supply.

Work was begun this week on the construction of a reinforced concrete tank of 100,000 gallons capacity to be used as a water supply for the buildings which comprise the quarantine station on Culebra Island. The tank will be located on Naos Island, in order to secure a site high enough for gravity flow, and the discharge pipe will be laid over the neck of land connecting the two islands, which at low tide shows above water. The tank is for the storage of salt water for domestic purposes, and will be kept supplied by the pumping equipment at present in service in connection with the two small wooden tanks from which the domestic water supply has been obtained.

A tank of similar construction will be built at the Palo Seco leper asylum. It will contain 10,000 gallons and will be located at a height sufficient to furnish gravity flow to all the buildings in the reservation. Water will be obtained, by pumping from the artesian well recently bored, the motive power being furnished by a gasoline engine. The water from this well is wholesome and can be used both for drinking and domestic purposes. The colony will be provided with a complete water system on a small scale. There will also be a number of hydrants for fire protection.

Survey of Railway from Panama to David.

The Secretary of War has authorized the Panama Railroad Company to enter into a contract with the Government of Panama for preliminary surveys and survey of location for a railroad to connect the city of Panama with David, a city on the Pacific coast in the Province of Chiriqui. In general, the route recommended by the Intercontinental Railroad Commission in 1893 will be followed, the distance being 274.4 miles. A committee appointed by the Government of Panama will arrange the details of the contract with a committee appointed by the President of the Panama Railroad. The engineering force of the Panama Railroad will be utilized in this work and, if necessary, it will be expanded in order to carry on the surveys.

New Schoolbuildings at Colon.

The Panama Railroad Company has leased two sites in the city of Colon to the Panama Government at a nominal rental for the erection of two schoolbuildings. One of these sites, on which will be built a school for girls, is located on Second street, between D and E streets, and the other, on which will be erected a school for boys, is located on the corner of Second street and the Avenida de Paez, near the Washington Hotel. According to the plans, the buildings are to be completed in from six to eight months, and work on the construction of the foundations is in progress. The structures will be of brick, two stories in height, about 60 feet wide and 130 feet long, and will be similar in style of architecture, and in the interior arrangements. The main entrance will be through two doors, placed side by side, and a short flight of steps will lead to a vestibule, or hallway, from which access is gained to the rooms on the lower floor, and from which a stairway ascends to the upper floor. Each building will have a number of classrooms, an assembly room, and an office for the principal, situated on the lower floor near the main entrance.

Concrete Laying at Gatun Locks.

The record of concrete laid at the Gatun Locks, by days of 12 hours, during the week ending March 26 is as follows:

	Cubic Yards.
March 21	2,511
March 22	2,483
March 23	2,718
March 24	2,468
March 25 (Holiday)	
March 26	2,502
Total	12,682
Previously reported	263,958
Grand total	276,640

During the week, 1,952 cubic yards of concrete were placed in the spillway of Gatun Dam.

Kindergarten Schools.

Plans submitted by the Superintendent of Schools for the establishment of kindergarten schools have been approved by the Chairman, effective October 1, 1910. Those who desire such privileges should apply to the Superintendent of Schools, Ancon, C. Z., on or before June 1. As far as practicable, applications must be made on or before that date to secure kindergarten privileges.

LABOR FORCE AND QUARTERS IN FEBRUARY.

The report of the Chief Quartermaster for the month of February shows a slight increase in force. The total force actually at work for the Canal Commission on February 23, was 29,814, an increase of 64 over the force at work on January 26. There was an increase of 70 in the number of "gold" employes, and a decrease of 6 in the number of "silver" employes. There was no importation of labor during the month, but independent immigration continued. The total force of the Panama railroad, the Panama railroad relocation, and the Commissary, not included in the above total, was 7,644, an increase of 8 since January 26. The combined force at work on February 23, aggregated 37,458, constituting the largest number of employes on the rolls up to that date.

The number of family quarters occupied by "gold" employes was 1,680, an increase of 17, and the occupants numbered 5,126, an increase of 42. Of this number, 1,775 were women, and 1,637, children. Bachelor quarters occupied by "gold" employes numbered 2,037, and the occupants numbered 3,819, of whom 145 were women. The family quarters occupied by European laborers numbered 309, and the occupants, 932; bachelor quarters 121, and the number of occupants, 5,032. The family quarters occupied by West Indians numbered 1,003, and the occupants, 3,145; bachelor quarters, 278, and the number of occupants, 5,185. The number of quarters occupied by Europeans and West Indian laborers shows a small reduction over the previous month.

The force actually at work on February 23, was as follows:

DEPARTMENT.	Artisans.						European Laborers.		West Indian Laborers.					Total Silver.	Total Gold.	Grand Total.
	Monthly.	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 cents.			
Const'ct'n and Eng'r'ng.	3,760	21	40	316	770	2,833	3,260	1,111	229	710	3,394	3,870	303	20,617	3,429	24,046
Civil Administration	193	..	..	2	4	17	......	......	...	...	......	4	....	220	356	576
Sanitation	615	..	..	4	7	6	......	......	...	1	3	270	8	914	364	1,278
Quartermaster's	1,107	3	2	46	162	197	191	24	35	35	45	956	9	2,812	254	3,066
Subsistence	631	..	..	1	2	......	......	......	...	...	......	......	....	634	64	698
Disbursements	8	..	..	....	.....	......	......	......	...	...	......	......	....	8	29	37
Examinat'n of Accounts	7	..	..	....	.....	......	......	......	...	...	......	......	....	7	106	113
Totals	6,321	24	42	369	945	3,053	3,451	1,135	264	746	3,442	5,100	320	25,212	4,602	29,814

Panama railroad force, 3,716; Panama railroad relocation force, 2,997; Panama railroad commissary force, 931. Total, 7,644.

AUXILIARY WATER SUPPLY.

Cocoli Lake Pumping Plant in Service—Augments Rio Grande Reservoir Supply.

One of the pumps at the new Cocoli Lake pumping station was placed in service on Friday night, March 25, and is now adding to the water supply of the 16-inch Rio Grande reservoir main at the rate of 1,000 gallons per minute. The continual enlargement of operations all along the line of work has necessitated a corresponding increase in the the water consumption, with the result that for a short time past the pressure in the Rio Grande main has been unusually low. In view of this fact, work on the new plant was advanced as rapidly as possible, and while part of it is in operation, considerable remains to be done before it is entirely completed. The pumps are not yet housed, and part of the apparatus in connection with the filtration plant is not yet installed. The auxiliary supply, however, produced a decided increase in the pressure, the gage which read 25 pounds before the pump was started, rising to 46 pounds shortly afterward.

The equipment at the pumping station, which is located on the bank of Cocoli Lake, consists of two horizontal turbine pumps driven by a 65-horsepower electric motor. Current is furnished from the Miraflores power station, and temporarily, the transmission line to the sand dock at Balboa has been tapped for the purpose. Water is drawn from the lake through an intake pipe and is pumped to the filters, located in the basement of the central power station at Miraflores, through a 10-inch discharge pipe. After passing through the filters, it is forced into the Rio Grande reservoir main through a 10-inch pipe, which opens into a 16-inch pipe near the point of junction.

The filtration plant consists of two units, each having a capacity of 500,000 gallons every 24 hours, with a minimum pressure of 66 pounds, and a maximum pressure of 75 pounds to the square inch at the influent. The settling basin and treating tanks remain to be installed, and at present the water is being treated with an alum solution by a temporary process.

Cocoli Lake at its normal height of 35 feet above mean sea level has a capacity of approximately 429,000,000 gallons of water, and the combined capacity of the lake and the Rio Grande reservoir is over 900,000,000 gallons, insuring an abundance of water for all purposes at an adequate pressure, when the new plant is in complete operation.

The Rio Grande reservoir contains considerably more water this year than at the same period a year ago. On March 15, 1909, the elevation was 230.97 feet above mean sea level. On March 15 of this year the elevation was 232.78. The lowest elevation reached last year was on June 18, when it was 218.08.

Sons of the American Revolution.

All Americans, eligible to membership in the Society of the Sons of the American Revolution, who desire to join a Canal Zone society of the organization, are requested to communicate with W. A. Erskine, member of the District of Columbia Society, Balboa, C. Z., for information, application blanks, etc. All applications will have to be approved by the National Society Sons of the American Revolution at Washington, which has expressed through its President General, Morris B. Beardsley, considerable interest in the organization of a Canal Zone society. W. A. ERSKINE.

Balboa, C. Z., March 18, 1910.

New Pay Car Schedule.

A new pay car schedule arranged by the Disbursing Officer at the request of Central Division officials has received the approval of the Chairman and will become effective on next pay day. The amended schedule, which appears below, favors Culebra Cut, inasmuch as the pay car will be in the Cut only one day, instead of portions of two days as heretofore, and will, therefore, be less apt to interfere with the work.

SCHEDULE FOR THE 12TH OF THE MONTH.

Leave Empire at 7 a. m.
Balboa dumps, 7.45 to 8.30 a. m.
Ancon crusher, 8.45 to 9.30 a. m.
Corozal, 9.45 to 10 a. m.
Miraflores dump and power house, 10.15 to 11 a. m.
Pedro Miguel, 11 a. m. to 1.30 p. m.
Miraflores—West side, 1.45 to 2.30 p. m.
Culebra and Lirio planing mill, 3.30 to 4 p. m.
Empire shops and Empire, 4.10 p. m.

SCHEDULE FOR THE 13TH OF THE MONTH.

Leave Empire at 6 a. m.
Through Canal from Bridge 57½ to White House incline, 6.30 to 11 a. m.
Las Cascadas, 11 a. m. to 1 p. m.
White House incline through Canal to Matachin, 1.10 to 3 p. m.
Matachin, 3 to 3.15 p. m.
Bas Obispo station, 3.30 p. m.

SCHEDULE FOR THE 14TH OF THE MONTH.

Leave Empire at 7 a. m.
Gamboa roundhouse, 7.30 a. m.
Santa Cruz, 7.45 to 8.15 a. m.
P. R. R. relocation north to Caimito and San Pablo, 8.15 to 11 a. m.
Tabernilla, 11.30 a. m. to 1.30 p. m.
Mamei, 1.45 to 2 p. m.
Gorgona, 2.15 p. m.

SCHEDULE FOR THE 15TH OF THE MONTH.

Leave Empire at 5.30 a. m.
Gatun, 6.45 a. m. to 2. p. m.
Buena Vista, 2.20 p. m.
Bohio, 2.30 p.m.
Frijoles, 3 p. m.

Rock Crushing at Porto Bello.

A statement of the rock crushed at Porto Bell, and the time the crushers were in operation, by days, during the week ending March 26 follows:

	Hours worked.	Cubic Yards.
March 21	12:49	3,164
March 22	11:13	2,965
March 23	10:35	2,904
March 24	12:05	3,280
March 25, (Holiday)		
March 26	11:40	2,988
Total	58:22	15,301

Resolutions of Sympathy.

At a special meeting of Ancon Court No. 7, Independent Order of Panamanian Kangaroos, called for the purpose, resolutions of sympathy were adopted on the death of Mrs. A. H. Stewart, the wife of one of the members of the lodge, which occurred on Saturday, March 19.

Missing Men.

Information is desired in regard to Antonio Lopez, a native of Spain, who is believed to be on the Isthmus. Any one having knowledge concerning him is requested to communicate with the office of the Chairman and Chief Engineer, Culebra, C. Z.

Information is desired regarding the present address of Rex DeOre McDill, who was employed in the commissary department of the Panama railroad until March 10, 1910, when he left the service. Any one having knowledge of him is requested to communicate with his brother, G. H. McDill, Bas Obispo, C. Z.

Applications for Married Quarters.

On March 1, there were 84 applications for family quarters on the No. 1 list of applicants, and 454 on the No. 2 list, an increase of 1 on the No. 1 list, and an increase of 28 on the No. 2 list, as compared with February 1. Of these applicants, 89 are occupying regular, or nonhousekeeping family quarters at stations, other than those at which their applications are filed. The list by towns follows:

	No. 1 List.	No. 2 List.
Ancon	8	15
Balboa	1	52
Bas Obispo	1	9
Corozal	....	15
Cristobal	3	128
Culebra	....	....
Empire	....	....
Gatun	52	104
Gorgona	8	73
Las Cascadas	3	10
Paraiso	1	22
Pedro Miguel	4	6
Porto Bello	3	17
Tabernilla	....	3
Total	84	454
February 1	83	426
January 1	88	402

Applicants on the No. 1 list are employes who entered the service prior to January 1, 1908, and they are given prior consideration.

Lidgerwood Unloaders in February.

A statement of Lidgerwood cars unloaded on the Central Division dumps during the month of February follows:

LOCATION.	No. of unloaders.	No. of trains.	No. of cars.
Balboa	3	791	15,029
Miraflores	3	661	12,559
Gamboa	1 (23 days) *1 (6 days)	381	6,858
Tabernilla	3 (23 days) *1 (17 days)	1,044	18,762
Total	11	2,877	53,208

*Same unloaders in both cases.

Mechanical Track Shifting.

Track was raised and thrown during the month of February, by track shifters of the Central Division, as follows:

SHIFTER No.	Location.	Amount.
		Feet.
No. 5	Tabernilla	208,437
No. 9	Tabernilla	28,470
No. 6	Mamei	12,850
Nos. 1 and 7	Santa Cruz	140,967
No. 8	Miraflores	94,717
No. 2	Balboa	192,100
Total		*677,541

*Or 128.32 miles.

Notice to Locomotive Engineers.

Subdivision No. 756, B. of L. E. will meet at Paraiso on Sunday, April 3, at 1.30 p. m., and at Las Cascadas on Sunday, April 20, at the same hour. H. H. VIALL, *F.A.E.*

Las Cascadas, C. Z., March 25, 1910.

LOST—In Panama, an Elgin gold watch, with initials "J. R. D. M." engraved on back. Finder is requested to notify J. R. D. Matheson, Empire, C. Z., or to return the article to him and receive reward.

LOST—On Train No. 20, March 20, 1910, between Mount Hope and Colon, an open face Hamilton watch, 21-jewel movement, 25-year case. Finder is requested to communicate with F. L. Busby, Frijoles, C. Z.

CANAL MEDAL SERVICE BARS.

The following list contains the names of employes of the Isthmian Canal Commission, who completed four years' continuous service on the Isthmus, or who completed a second period of two years' continuous service on the Isthmus, between January 1 and December 31, 1909, and for that reason are entitled to receive a medal bar. The list is now published in order that it may be carefully checked by those interested. Any omissions, or errors in the spelling of names, or in the dates on which bars became due should be reported to the Assistant to the Chairman, at Culebra, for correction.

Name.	*Bar due.*
1909.	
Frarow, Peter	Jan. 2
Stewart, Edward E	Jan. 3
Loulan, Frank	Jan. 4
McIlvaine, Cloyd A	Jan. 4
Power, William L	Jan. 7
Frank, Gus	Jan. 10
Cummings, Edgar C	Jan. 11
Follman, M. A	Jan. 11
Holcomb, William	Jan. 11
Mackereth, Adelaide P	Jan. 11
Warren, Rudolph G	Jan. 11
Waldrop, John P	Jan. 12
Randall, James P	Jan. 13
Reid, Howard M	Jan. 16
Bucknell, W. S	Jan. 17
Caraher, James	Jan. 17
Corrigan, Joseph A	Jan. 17
King, John M	Jan. 17
Russell, Genevieve	Jan. 17
Kyte, John P	Jan. 25
Tucker, Allen B	Jan. 27
Atterbury, Thomas C	Feb. 2
Cody, Harry F	Feb. 2
Hathaway, Milton S	Feb. 2
Newbold, Wm. R., Jr	Feb. 2
Shady, Raymond C	Feb. 2
Smith, John H., Jr	Feb. 2
Duey, Charles W	Feb. 6
Keys, James C	Feb. 6
Ash, Eugene H	Feb. 7
Austin, Alfred L	Feb. 7
Beck, Edgar P	Feb. 7
Greene, Frank E	Feb. 7
Guderian, Frederick	Feb. 7
Johnson, Julius R	Feb. 7
Trachler, Gustav	Feb 7
Williams, Burton	Feb. 7
Arbuckle, Eustace M	Feb. 8
Rigney, Edward P	Feb. 11
Butterfield, Laverne	Feb. 15
Hagemann, C. F	Feb. 15
Van Zant, C. L	Feb. 15
Huff, James B., Jr	Feb. 21
Miracle, Frank W	Feb. 21
Acheson, William F. M	Feb. 23
De la Vergne, John C	Feb. 23
White, Samuel M	Feb. 23
Gudger, Hezekiah A	Feb. 24
Cotter, J. H	Feb. 27
Willson, Lewis E	Feb. 27
Wilson, Richard W	Feb. 27
Crafts, Charles P	Feb. 28
Darling, Samuel T	Feb. 28
Eason, John J	Feb. 28
Forman, Jacob C	Feb. 28
Fox, William	Feb. 28
Lumby, George W	Feb. 28
Palmer, George W. A	Feb. 28
Thompson, William G	Feb. 28
Mulverhill, John F	Mar. 1
McLean, John H	Mar. 7
Stevens, Fletcher	Mar. 7
Talty, John W	Mar. 7
Henry, William D	Mar. 13
Borg, Hemke	Mar. 14
Ergenzinger, William J	Mar. 14
Johnson, James L	Mar. 14
Matts, Minnie M	Mar. 14
Bovay, Harry E	Mar. 15
Vannah, Lorenzo C	Mar. 15
Bell, Florence	Mar. 21
Willson, Fred D	Mar. 21
Connor, Edward B	Mar. 22
Edholm, Karl	Mar. 22
Lyons, Mary V	Mar. 22
Maher, Patrick F	Mar. 22
Moreny, Vincent	Mar. 24
Cornish, Frank L	Mar. 28
Kirk, George E	Mar. 28
Ninas, George A	Mar. 28
Roderick, Charles	Mar. 28
Turner, Frederick G	Mar. 28
Waltman, William D	Mar. 28
Geddes, Albert H	Apr. 1
Mattimore, Harry B	Apr. 3
Giles, Ira A	Apr. 5
Anderson, Chauncey E	Apr. 7
Avery, James A	Apr. 7
Doty, Frank W	Apr. 7
Haywood, Harry A	Apr. 7
Barrett, Nelson M	Apr. 10
Keller, John C	Apr. 10
Miller, Albert F	Apr. 10
Swinehart, Charles M	Apr. 10
Tighe, Joseph M	Apr. 10
Allen, Charles	Apr. 12
Geddes, Claude R	Apr. 12
Haines, Abram L	Apr. 12
Hostetter, Harlan O	Apr. 12
MacAdam, G. M	Apr. 12
MacCormack, Daniel W	Apr. 12
Smith, Sara B	Apr. 12
Ward, Frank X	Apr. 12
Anderson, George	Apr. 17
Campbell, Charles R	Apr. 17
Day, Frank E	Apr. 17
Greer, George W	Apr. 17
Koehler, Charles A	Apr. 17
Macfarlane, William H	Apr. 17
Maxon, William E	Apr. 17
Shipley, William F	Apr. 17
St. Clair, Dan	Apr. 17
Tucker, James E	Apr. 17
Vance, DeWitt C	Apr. 17
Warner, Anselm M	Apr. 17
West, Christopher B	Apr. 17
Wood, Robert E	Apr. 17
Dodson, Robert H	Apr. 19
Ellefsen, Ellef	Apr. 19
Kingsbury, Augustus H	Apr. 19
Sargent, Charles R	Apr. 19
Clyde, Ray W	Apr. 24
Cohen, Jacob	Apr. 24
Daly, Owen M	Apr. 24
Fitzpatrick, Frank	Apr. 24
Newcomer, Henry R	Apr. 24
Rogers, Alfred E	Apr. 24
Stanton, Wilbor D	Apr. 24
Waring, Charles T	Apr. 24
Ashton, William F	Apr. 25
Ensey, Charles R	Apr. 25
Harrod, Ernest E	Apr. 25
Henderson, Watt A	Apr. 25
Halloran, George B	Apr. 29
Cornwell, Albert E	Apr. 29
Huntoon, Robert J	Apr. 29
McKeever, Henry M	Apr. 29
O'Brien, Richard	Apr. 29
Neal, Charles J	Apr. 29
Russell, William E	May 3
Baumer, Herbert H	May 5
Booth, Rufus K	May 5
Cantwell, Matthew D	May 5
Griley, Michael A	May 5
Webster, J. Leon	May 5
Bradberry, Randall T	May 10
Burns, John E	May 10
Dickerson, Charles O	May 10
Ellerbe, John C	May 10
Leonard, Nichlos	May 10
Leydecker, F. W	May 10
O'Neill, Daniel	May 10
Brady, Walter H. H	May 11
Harrison, William	May 11
Miller, Jacob	May 11
Start, Arthur E	May 11
Walsh, William H	May 11
Farrell, William H	May 15
Ferebee, Frank B	May 15
Johnson, Peter	May 15
Metzger, Fred D	May 15
Sessions, Arthur C	May 15
Walker, Clement	May 15
Schwartz, Henry, Jr	May 18
Evans, Arthur K	May 23
Smith, Jay M	May 23
Watts, George H	May 23
Stone, Archibald K	May 24
Bitley, Ernest L	May 29
Finley, Lee L	May 29
Geary, Lawrence D	May 29
Mansfield, Henry C	May 29
Bottenfield, F. M. Drake	May 31
Hebard, Roy W	May 31
Leason, Harry	May 31
Leassenhop, Herbert S	May 31
Thompson, William L	May 31
Grant, Kyern	June 1
Brown, John R	June 2
Mitchell, Hugh	June 4
Preston, Perry B	June 4
Robinson, Arthur L	June 4
O'Brien, Thomas	June 9
Walker, John S	June 9
Seeger, Joseph	June 12
Bell, William G	June 13
Tipton, George W	June 13
Middleton, Nicholas B	June 16
Baker, E. Lewis	June 17
Goodfellow, Robert C	June 17
Jeffries, James B	June 17
Kirchner, Christian A	June 17
Tobin, Edwin	June 17
Unckles, Roderick W	June 19
White, Walter J	June 21
Simpson, Stephen S	June 22
Todd, C. S	June 22
Wilson, Paul S	June 22
Flynn, John H., Jr	June 23
Wickham, J. F	June 27
Burr, R. T	June 28
Leonard, Edward	June 28
Lowe, William E	June 28
Mabry, William D	June 28
Porter, Felix E	June 28
Poultney, Charles	June 28
Sawtelle, Harrie W	June 28
Larson, Leander	July 1
Mitchel, Edward W	July 1
O'Neal, Lucius A	July 5
Van Hardeveld, John A	July 5
Potts, Frederick A	July 6
Coflin, Howard	July 7
Hyser, Frank H	July 7
Kendall, Charles E	July 7
Swanson, Frederick G	July 7
Mealer, Charles L	July 8
Atkins, John	July 11
Blackhurst, John	July 11
Clement, Charles C	July 11
Faure, Ad	July 11
Fowler, Jay F	July 11
Fairbanks, Helen G	July 12
Grove, Blanche	July 12
Hale, David J	July 12
Humphreys, James T	July 12
Potter, Russell B	July 12
Stokoe, James	July 12
Vaughn, Emmett I	July 12
White, Mark	July 12
de Lavandeyra, J	July 16
Fleming, Harry V	July 16
Halsey, George F	July 17
Hughes, Charles R	July 17
Jenkins, Ben	July 17
Latchford, Stephen	July 17
Morris, Robert K	July 17
Weitz, William	July 17
Le May, E. A	July 19
Whitaker, Charles L	July 19
Bosse, H. Theodore	July 22
Cotton, Arthur E	July 22
Gilkey, Lloyd E	July 24
Rainwater, Roscoe	July 24
Jackson, John J	July 26
Strong, George W	July 26
Phillips, John L	July 27
Smith, George H	July 27
Carpenter, Marcy H	Aug. 1
Collins, Lorin C	Aug. 1
Feld, Frederick A	Aug. 1
King, James O	Aug. 1
Shea, C. P	Aug. 1
Baxter, John K	Aug. 9
Green, George W	Aug. 9
Hehu, Mary	Aug. 9
Keeling, Edward A	Aug. 9
Lupfer, Cambridge A	Aug. 9
Manley, William G	Aug. 9
Mullin, John W	Aug. 9
O'Shaughnessy, Philip	Aug. 9
Prentiss, C. L	Aug. 9
Ross, Frank B	Aug. 9
Tragsdorf, William E	Aug. 9
Whyte, Walter J	Aug. 9
March, Joseph B	Aug. 10
Kahrman, Conrad H	Aug. 11
Young, John D	Aug. 11
Payne, Harry M., Jr	Aug. 12
Ballantine, Margaret I	Aug. 14
Banks, Charles H	Aug. 14
Bartlett, Robert L	Aug. 14
Comber, W. G	Aug. 14
Douglas, Gavin	Aug. 14
Dunning, William E	Aug. 14
Evans, Joseph G	Aug. 14
Garrison, Edgar S	Aug. 14
Greeley, Horace L	Aug. 14
Murphy, Robert E	Aug. 14
Owens, Charles T	Aug. 14
Pittman, William P	Aug. 14
Singer, John S	Aug. 14
Smith, Drew E	Aug. 14
Stewart, Frederick F	Aug. 14
Allen, Charles P	Aug. 19
Brem, Walter, Jr	Aug. 19
Garcon, Edward J	Aug. 19
Graff, George V	Aug. 19
Grissom, James T	Aug. 19
Lawrence, Wilbur S	Aug. 19
Palmer, Eugene W	Aug. 19
Williamson, Norman E	Aug. 19
Evans, Forrest M	Aug. 25
Farmer, Alfred G	Aug. 25
Gibson, Collins P	Aug. 25
Hayes, Charles G	Aug. 25
Leathley, Thomas A	Aug. 25
Price, Elmer E	Aug. 25
Rosenbaum, Alex'der L	Aug. 25
Roudabush, Robert M	Aug. 25
Sands, Robert M	Aug. 25
Sawyer, Francis W	Aug. 25
Sivell, Hugh G	Aug. 25
Holden, George	Aug. 26
Mabry, Nettie E	Aug. 28
McGown, Arthur	Aug. 30
Farish, H. S	Sept. 1
McColley, Curtis C	Sept. 1
Palmer, A. H	Sept. 1
Swinson, Charles O.	Sept. 1
Winters, William	Sept. 1
Wirtz, William	Sept. 1
Wynne, Joseph	Sept. 1
Noble, Frank C	Sept. 4
Curney, Frank R	Sept. 5
Dillon, Vesper C	Sept. 5
Gudger, Herman A	Sept. 5
Sine, Elwood P	Sept. 5
Benninger, Sherman A	Sept. 6
Stevenson, Jesse H	Sept. 6
Clapp, Carl J	Sept. 12
Nolan, Joseph J	Sept. 12
Owens, John	Sept. 12
Patton, Todd J	Sept. 12
Richardson, Ada M	Sept. 12
Stanton, Charles J	Sept. 12
Stephens, Walter E	Sept. 12
Gilmore, Clarence E	Sept. 16
Robb, Marquis L	Sept. 16
Barte, George A	Sept. 19
Erickson, Arthur E	Sept. 20
Selby, F. Payne	Sept. 20
Simmons, Clinton O	Sept. 21
Robertson, William T	Sept. 22
Hackenberg, Austin L	Sept. 23
Hawley, G. I	Sept. 23
Moore, Anna C	Sept. 23
Vanderpool, J. H	Sept. 23
Williams, William L	Sept. 23
Butz, Leonard	Sept 25
Hunt, Maud H. B	Sept. 30
Otis, Harry W	Sept. 30
Pender, Walter I	Sept. 30
Sheridan, Patrick L	Sept. 30
Sisson, Benjamin F	Sept. 30
Sonneman, Otto F	Sept. 30
Frost, Julia M	Oct. 1
Russell, Harold C	Oct. 3
Sims, Eli	Oct. 3
Hooper, Lee	Oct. 4
Close, Joseph A	Oct. 10
Ferber, Louise A	Oct. 10
Green, William H	Oct. 10
Houston, J. Frank	Oct. 10
Metcalf, Christopher C	Oct. 10
Sims, William E	Oct. 10
Smith, Emily C	Oct. 10
Smith, Reynolds B	Oct. 10
Storm, William H	Oct. 10
Weems, Mandville A	Oct. 11
Berger, Albert	Oct. 14
Caldwell, Bert W	Oct. 14
Curtis, Karl P	Oct. 14
Lincoln, Lucius F., Sr	Oct. 14
Eno, Harry	Oct. 15
Wise, James L	Oct. 16
Custy, Thomas	Oct. 17
Holliday, Mary	Oct. 21
Dewling, Andrew V	Oct. 23
Gibson, John K	Oct. 23
Henshaw, William P	Oct. 23
Shoutz, George M	Oct. 23
Storla, John L	Oct. 23
Brewer, L. Augustus	Oct. 25
McLaughlin, William J	Oct. 26
Gorham, George H	Oct. 31
Baker, Joseph A	Nov. 1
Groves, Richard B	Nov. 1
Arnold, Frank A	Nov. 2
Lynn, William J	Nov. 6
Strang, Frederick W	Nov. 6
Cannon, Minnie J	Nov. 7
Norcross, Daniel E	Nov. 7
Quimby, E. Frederick	Nov. 7
Spalding, Walter J	Nov. 7
Vandegrift, Luella	Nov. 7
Williams, Harold P	Nov. 7
Crabtree, George H	Nov. 8
Becker, Emil	Nov. 13
Hearne, Charles A	Nov. 13
King, Claude W	Nov. 13
Orenstein, Alexander J	Nov. 13
Carlson, Clarence O	Nov. 21
Conrad, Moise	Nov. 21
Davis, Frank J	Nov. 21
Fecbtig, Edward M	Nov. 21
Higgins, Herman K	Nov. 21
Little, Joseph	Nov. 21
Malia, John T	Nov. 21
McMahon, John C	Nov. 21
Scheets, Lambert G	Nov. 21
Turner, George H	Nov. 21
Williams, Edward J	Nov. 21
Wright, Frank P	Nov. 21
Brownell, Oscar L	Nov. 26
Christiansen, John	Nov. 26
Conover, Howard H	Nov. 26
Cooper, John B	Nov. 26
Craddock, John D	Nov. 26
Crawford, John	Nov. 26
Keator, Edward O	Nov. 26
Lumby, Robert C	Nov. 26
McCoin, Orville E	Nov. 26
McGimsey, James V	Nov. 26
Roper, Cecil T	Nov. 26
Williams, James O	Nov. 26
Lavery, Mathew	Nov. 27
Arden, Bernard	Dec. 1
Austin, Louis D	Dec. 2
Bozeman, Walter J	Dec. 2
Brown, Charles M	Dec. 2
Flanagan, Thomas	Dec. 2
Foster, Elmo M	Dec. 2
Garland, Henry V	Dec. 2
Gerow, William	Dec. 2
Stephens, Fred H	Dec. 2
Stipp, Henry	Dec. 2
Weidman, Charles E	Dec. 2
Varrone, Nicholas J	Dec. 3
Schutt, Oscar	Dec. 5
Brouk, A. Earl	Dec. 9
Chambers, John W	Dec. 9
French, Archie W	Dec. 9
Herrington, Walter W	Dec. 9
Jennings, Edward F	Dec. 9
Keyser, Elgie M	Dec. 9
Kyte, Edward M	Dec. 9
Rall, Emil J	Dec. 9
Turner, Edward G	Dec. 14
Bennett, Arthur R	Dec. 16
Bliss, Gerald de Leo	Dec. 16
Bowlen, Maurice E	Dec. 16
Browning, Walter S	Dec. 16
Rourke, Louis K	Dec. 16
Woodsum, Walter C	Dec. 16
Conn, George E	Dec. 18
Daley, Tom	Dec. 20
Coleman, Robert	Dec. 24
Dutrow, Howard V	Dec. 24
Frazee, William H., Jr	Dec. 24
Kinne, Hugh T	Dec. 24
Pompeji, Guido B. F	Dec. 24
Crowley, Daniel E	Dec. 28
Holcomb, Benoni E	Dec. 28
Martin, James	Dec. 28
Hill, Urban L	Dec. 29
Keeling, James R	Dec. 29

SOCIAL LIFE OF THE ZONE.

Women's Clubs, and Other Features.

The date of the annual meeting of the Canal Zone Federation of Women's Clubs has been changed from April 5 to April 12. The meeting will be held at Empire and all details will be carried out as announced in THE CANAL RECORD of March 9.

At a business meeting of the Gorgona Woman's Club on Thursday, March 17, it was decided to hold the department, as well as the general meetings at the clubhouse. Miss Wright was appointed chairman of the literary department. The organization of the club chorus is proceeding, and actual work will begin shortly after the Easter holidays. Miss Anderson is in charge. There is a sewing circle in connection with the club which meets at the homes of members on Tuesday afternoons. Tea is served at these gatherings. It is proposed to make regular charity sewing a feature of the work.

A new organization of women, to be called the All Isthmus Current Events Club, is planned. Its object is to provide social intercourse for the women in the towns of the Canal Zone which have no clubs, and it is proposed to hold meetings once a month at such places as are most convenient to the majority of the members. The club will affiliate with the Canal Zone Federation of Women's Clubs, thus affording scope for cooperation in the efforts of that organization. As the name implies, the meetings will be devoted to papers and discussions on current topics, and an annual club luncheon will be a feature.

In connection with a committee on Public Health and Preventive Medicine, which was formed in New York at the suggestion of the American Medical Association, among women members of that organization in 1909, a committee has been formed in the Canal Zone. This committee will cooperate with the women's clubs in arranging for lectures on general topics of health and hygiene, to be held at least once during the club year before the various organizations, and will also endeavor to arrange for mass meetings of women to be held in the Canal Zone towns. Dr. Helen I. Doherty-McGillicuddy of Empire is secretary of the committee, and Miss Emily C. Thompson, head nurse at Colon Hospital, and Mrs. Lloyd A. Kefauver of Culebra are members.

The Order of Railroad Conductors, and the Brotherhood of Locomotive Engineers will give a charity ball at the Hotel Tivoli on the evening of Saturday, April 30, for the benefit of the Highland Park, Ill. home for aged and disabled railroad men. Committees, consisting of a chairman and two members of the orders, have been appointed in Colon, Gatun, Tabernilla, Gorgona, Las Cascadas, Empire, Culebra and Balboa, all acting under the general chairman, J. C. Barnett of Las Cascadas. A special train will be run from Colon and return, holders of tickets being entitled to free transportation. The tickets, which admit two and include supper, are sold at $2 each. J. H. Morrissey, grand master of the Brotherhood of Trainmen will be present for the occasion. The Highland Park home, which is being built at a cost of $70,000, will be completed and dedicated on April 12.

The Elite Club of Las Cascadas entertained the Gorgona Dancing Club at its regular monthly dance on Friday evening, March 11. A special train was run for the accommodation of guests. Music was furnished by an orchestra, and refreshments were served. The business meetings of the club are held on the first Friday evening in each month, the routine work being followed by an informal dance. The monthly dance is held on the second Friday in the month.

The Terpsichoreans, a recently organized dancing club composed of the members of the Culebra Club and the Wizards of Empire, hold informal dances on the second Saturday evening in each month, alternating between the Culebra and Empire clubhouses. Music is furnished by the Tivoli orchestra. The following officers constitute the executive committee: L. K. Rourke, president; C. Peters, secretary; G. A. Johnson, W. E. Collins, and J. L. Davies.

The Gatun Sunshine Society held a sale for bachelors in the clubhouse on Thursday evening, March 17. Beside the sale of fancy and useful articles, home made sweets and delicacies, there were other features including a grab bag, fortune telling, and a guessing contest. A number of selections were sung by a chorus of ladies and gentlemen. The local order of Kangaroos attended in a body.

A minstrel show is being arranged by the Corozal Club to be held in the social hall on Tuesday evening, April 5. At an election of officers held on Tuesday evening, March 22, Messrs. Watt, LeMay, Hammer and Keller were reelected and Mr. C. H. Neal was chosen second vice-president.

The Empire Masonic Club entertained the Las Cascadas Masonic Club at its meeting on Wednesday evening, March 16. The guests were conveyed by special train.

The Palm Club of Las Cascadas has disbanded.

Church Work.

Special Easter services were held at the Union Church in Cristobal, a chorus choir furnishing the music. The Sunday school attendance at this church is large and the membership is increasing. The monthly offerings are devoted to city missions in New York City, and the China Inland Mission.

A special service was held at the chapel in Culebra in the evening of Easter Sunday, when a program was given by the members of the Sunday school. Easter services were also held in the recreation hall at Corozal, Rev. Carl H. Elliott preaching.

The quarterly meeting of the Isthmian Sunday School Association will be held at Corozal on Sunday, April 10. Reports of the work of the various federated schools and of the teachers' training classes will be made. Training classes are now established at Culebra, Gorgona, Bas Obispo, Gatun and Cristobal. Delegates will be elected to attend the World's Sunday School convention to be held in Washington, May 19 to 24.

The memorial window for St. Luke's church, Ancon, was in place over the chancel for the services on Easter day. The formal dedication will take place on Sunday morning, May 8, the first Sunday after the sixth anniversary of the American occupation, which occurs on May 4. A brass altar desk has been placed in the church as a memorial to the late Gordon Smith. The Easter gift of the Woman's Altar Guild consisted of a credence table, a font cover, and an alms box to be placed at the door of the chapel.

The auxiliary work of the Methodist Episcopal Sunday school in Panama consists of a service held each Sunday morning at 9.30 o'clock in the Chiriqui prison, where there is a class of 25 members, and a service at Pedro Miguel at 2 o'clock Sunday afternoons for a number of East Indians. This extension work is in charge of the pastor, Rev. Mr. Gray, and the superintendent of the Sunday school, Mr. L. C. Vannah. The church Sunday school now has an enrollment of 80.

The First Baptist Church of Empire will hold a meeting on Sunday, April 3, at 3 p. m., for the transaction of important business and observance of the Lord's Supper. There will be preaching at 7.30 o'clock the same evening by the pastor. All Baptists and friends are earnestly requested to be present.

The Woman's Altar Guild of St. Mary's Church at Empire has resumed active work, and meetings are held in the church on Monday afternoons. An entertainment for the benefit of the church will be held shortly under the auspices of the guild.

On Sunday morning, March 20, a farewell service was held on board the transport *Prairie* for the 300 Marines about to sail for the States. The service was conducted by Rev. Mr. Elliott and Mr. Safford.

PERSONAL.

The Hon. R. S. Reynolds Hitt, Envoy Extraordinary and Minister Plenipotentiary from the United States to the Republic of Panama, with Mrs. Hitt, arrived in Panama on March 21. He was formally received by President Mendoza on March 26.

Band Concert at Nombre de Dios.

Owing to the uncertainty regarding the length of time the I. C. C. band will be able to spend at Nombre de Dios, no set program has been arranged for the concert to be given there on Sunday, April 3. It has been decided to limit the size of the party, which will accompany the band, to 150 persons, including the bandsmen. Passes for passage on the tug leaving Dock 13, Cristobal, about 9.30 a. m., may be obtained from Chas. E. Jennings, Musical Director, through the bandsmen.

Y. M. C. A. at Camp Elliott.

The work of the Y. M. C. A. at Camp Elliott was begun on Thursday evening, March 17, with a meeting held on the parade ground. The following program was given:

Overture	Camp Elliott Marine Band
Invocation	Mr. C. R. Drum
Address of Welcome	Captain Van Orden, Chairman
The Star Spangled Banner	Sung by Marine Corps (Camp Elliott Marine Band accompanying.)
Address—*The Y. M. C. A. in Camp*	Lieut.-Col. Cole
Where are the Boys of the Old Brigade	Culebra Male Quartet (Messrs. Case, Tupper, Kersey and Kramer.)
Address	Colonel Gorgas
Solo (Selected)	Mrs. Ludwig
Address—*Cooperation*	Mr. F. C. Freeman
Selection	Culebra Male Quartet
Address—*The International Committee's Interest*	Mr. C. J. Hicks
Benediction	Chaplain Brown
Homeward Bound	Camp Elliott Marine Band

A clubhouse has been erected, but at present it is in use as a barrack. As soon as the building is vacated, equipment will be installed and regular work begun. Mr. J. E. Safford has been appointed secretary.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GORGONA.

An Easter song service was held in the clubhouse on Sunday night, March 27, and an address was given by Rev. A. A. Nellis of Culebra. Special music was rendered by the ladies' quartet, consisting of Mrs. Snyder, Mrs. Kunce, Mrs. Smith and Mrs. Pierson. There was also a duet, "The Lord is My Shepherd," sung by Mrs. Snyder and Mrs. Smith, accompanied by Mrs. Booz and Mrs. Reinhold.

The indoor baseball game between Culebra and Gorgona on Thursday night, March 24, resulted in a victory for Gorgona by a score of 20 to 8.

A moving picture entertainment with illustrated songs was given on Wednesday night, March 30.

Judge March's Bible study class, which is studying "The Social Significance of the Teachings of Jesus," meets on Tuesday nights at 7.30. The Bible study class, under the direction of Mr. Cook, meets on Tuesday nights at 7.30. The Spanish class, with Mrs. Ellsworth, as teacher, meets on Tuesday nights at 7.30. Members are cordially invited to join any of these classes at any time.

CULEBRA.

The league indoor baseball game between the local team and Cristobal last Saturday night, was won by Culebra, score, 25 to 9. The line-ups of the teams were as follows: Culebra—Dougherty, Cushing, French, Lindsay, Tupper, Baumer, and Diehl. Cristobal—Russel, Goodman, Morell, Janison, Schwollenberg, Forstrom, Wehmier.

Much interest is being manifested in chess at the present time, and the chess club extends a hearty invitation to others to join.

Systematic gymnasium work will be taken up again on April 4, after a few weeks rest. The work will be made as interesting as possible, and games of various kinds will be introduced. Any one desiring to come into the classes may leave their names with Mr. Kramer.

The camera dark room is nearly ready for use. The facilities for doing photographic work will be better than ever before, and all members of the association are invited to take advantage of it.

The statement made in last week's issue of THE CANAL RECORD that the pool tournament was won by Mr. E. J. Vogel, should have read "The billiard tournament was won by Mr. E. J. Vogel."

CRISTOBAL.

The "Dixie" basketball team defeated the New York team in a hotly contested game Monday night, March 21, by a score of 22 to 20. A sectional basketball team has recently sprung into existence and promises plenty of excitement in the near future. Indiana, Missouri and Texas Onestaters, besides the New York and "Dixie" teams, have been organized and will exchange games soon.

The Y. M. C. A. indoor baseball team defeated a team from the Commissary department on Thursday night, March 24, by a score of 23 to 7.

The lecture on Isthmian history to have been given by Prof. Carr was postponed this week, but one will be given each week hereafter until the course is finished.

The first of a series of Sunday afternoon meetings for men was held last Sunday. Mr. A. J. Goddard was the speaker, and his subject, "Opportunity". This will be a regular feature each Sunday for some time to come, or as long as the present interest is maintained. Every Sunday afternoon from 2.15 to 3.30.

The "Kristobal Kodakers" took their first outing last Sunday to Fort Lorenzo in spite of the unfavorable weather. About 25 made the trip.

The Panama railroad orchestra gave a pleasing concert in the Y. M. C. A. last Tuesday evening.

The bowling alleys will be ready for use next week. They have been thoroughly planed and polished, and will be in excellent shape.

EMPIRE.

The following program was rendered at the smoker given at the Empire clubhouse on Monday night of this week:

THE MAMMOTH DOCKSTADORIAN MINSTRELS OF EMPIRE.

CAST.

Interlocutor	Chesty (Primrose) Herring
Bones	Billy (Van) Evans
Tambo	Ed (Dockstader) Keeling
Instrumental duet	A. A. Wiley and E. W. Stolberg
Mandolin solo	G. E. R. Huer
Wrestling match	Joe Calvit and C. E. Angle
Farewell remarks	E. R. Gobrecht
Selection	Culebra Y. M. C. A. Quartet

THE BOOKING AGENT—A one act farce—

CAST.

Dan Frohman	Mr. McRae
Miss Patti	Mr. Robitoy
Edwin Booth	Mr. Hayes
James	Mr. Emery

Mr. Warwick presided and refreshments were served during the evening. The seats in the hall were grouped according to states, and each state responded with speeches. This feature was in charge of Mr. Perry Brown.

On Friday night, April 1, the Spanish class will be resumed. No sessions were held last week on account of the teachers having a holiday.

Professor Carr will deliver his third lecture on Isthmian history on Friday night, April 1.

GATUN.

The results of the pool tournament held on Friday, March 25, were as follows: Eggleston, Gatun, 59; Flynn, Culebra, 100; Dalton, Gatun, 50; Flynn, Culebra, 36; DePoorter, Gatun, 150; Wehmier, Cristobal, 52.

The bowling tournament held on Friday, March 25, resulted as follows:

Singles—Hertz, 499; Rabbitt, 489; Barte, 478.

Doubles—Barte and Chamberlain, Gatun, 1,070; Hertz and Louner, Gatun, 965; Lamster and Huson, Culebra, 964.

In the contest between the All Stars and Cableways, the All Stars took all three games.

The clubhouse barber shop was opened on Saturday, March 26, with Mr. Charles Carter of New York City in charge.

A bowling team from the accounting department won three games of ten pins from a team representing the time office on Tuesday night, March 22.

A Bible study club was organized on Tuesday evening, March 22, and Mr. J. W. Roland was elected president. It was decided to have two classes, one to take up the study of "The Social Significance of the Teachings of Jesus," by Prof J. W. Jenks of Cornell University, under the leadership of Mr. F. C. Freeman, general secretary of the Y. M. C. A.; the other class to take up a course of study entitled "Men of Steel" by W. W. Adair, railroad Y. M. C. A. secretary of New York City, under the direction of Mr. F. G. Smith. Both of these classes will meet on Tuesday evenings from 7.30 to 8.15. The course of study covers a period of twelve weeks, and the first lesson was held last Tuesday evening. Mr. A. M. Cotton was elected secretary of the class on "Men of Steel," and Mr. B. L. Smith, secretary of the class led by Mr. Freeman. A cordial invitation is extended to all members to join the club.

Regular systematic gymnasium work for the men, as also for the boys' department, will begin on April 1. It is hoped that a large number of the men of Gatun will avail themselves of this opportunity for physical development, recreation and fun.

Teams for indoor baseball, basketball, handball and bowling will be organized in the near future. Practice games are held at the present time. A new supply of bowling shoes will be on sale during the next few days.

ISTHMIAN LEAGUE.

The games scheduled between Empire and the Marines at Empire, and between Gorgona and Ancon at Gorgona on March 27, were postponed on account of rain.

STANDING OF CLUBS.

	P.	W.	L.	Pc.		P.	W.	L.	Pc.
Empire	17	13	4	.765	Ancon	16	7	9	.440
Gorgona	18	12	6	.666	Marines	19	3	16	.158

SCHEDULE FOR APRIL 3.

Marines at Ancon.
Gorgona at Empire.

Isthmian League Fielding Averages.

Following are the fielding averages of the players in the Isthmian Baseball League up to March 1:

	PO.	A.	E.	TC.	AV.
Moore, Empire	101	21	0	122	1000
E. Fluharty, Empire	15	1	0	16	1000
Poltrino, Ancon	2	0	0	2	1000
Magee, Gorgona	41	3	1	45	.978
Wright, Gorgona	104	3	3	110	.973
Yingling, Ancon	55	12	2	69	.971
Christopher, Empire	7	23	1	31	.968
Bell, Empire	126	10	6	142	.958
Maguire, Marines	125	7	6	138	.957
Bryan, Empire	37	22	3	62	.952
Herring, Gorgona	88	26	6	120	.950
Frampton, Ancon	34	4	2	40	.950
Nygren, Ancon	68	23	6	97	.938
Barney, Gorgona	64	12	5	81	.938
Hurrle, Marines	14	1	1	16	.938
S. Fluharty, Empire	10	17	2	29	.931
Heinz, Marines	26	11	3	40	.925
Munsen, Marines	9	40	4	53	.925
Volman, Marines	29	32	5	66	.924
Conway, Marines	26	9	3	38	.921
Clements, Gorgona	19	0	2	21	.905
Lubomski, Marines	26	10	4	40	.900
Burke, Marines	8	1	1	10	.900
Tinsley, Ancon	20	23	5	48	.896
Hunter, Ancon	25	1	3	29	.896
Murphy, Empire	14	2	2	18	.889
Toone, Empire	6	2	1	9	.889
Smith, Ancon	53	19	9	81	.889
Case, Gorgona	9	35	6	50	.880
Pearman, Ancon	24	19	6	49	.878
Emery, Gorgona	28	31	9	68	.868
Cole, Gorgona	7	19	4	30	.867
O'Brien, Marines	14	5	3	22	.864
Drennan, Ancon	1	5	1	7	.857
Dougherty, Gorgona	30	26	10	66	.848
Dixon, Empire	34	22	11	67	.836
Marshall, Empire	1	22	5	28	.821
Snyder, Marines	29	19	11	59	.814
Todd, Marines	8	8	4	20	.800
Snyder, Ancon	5	11	4	20	.800
Herring, Empire	3	1	1	5	.800
Scarff, Marines	20	19	10	49	.796
Markley, Empire	14	13	7	34	.794
Keller, Ancon	21	5	7	33	.788
Massen, Gorgona	3	4	2	9	.778
Ridge, Gorgona	1	1	1	3	.667

Ancon Jrs. Defeat Cristobal.

The Ancon Jrs. defeated a team from Cristobal in both games of a double header at the Ancon park on Good Friday morning. The scores by innings were:

First game:

										R.	H.	E.
Ancon Jrs	1	1	4	0	2	2	0	1	x	11	10	5
Cristobal	0	0	1	0	0	0	1	0	0	2	1	8

Second game:

								R.	H.	E.
Ancon Jrs	4	0	0	1	0	0	0	5	8	3
Cristobal	0	0	1	0	0	0	0	1	1	5

ATLANTIC LEAGUE.

There were no games at the Colon park on March 25 (Good Friday), or on March 27, rain causing a postponement on both dates.

STANDING OF CLUBS.

	P.	W.	L.	Pc.		P.	W.	L.	Pc.
Com-Sub	9	8	1	.889	P. R. R	9	4	5	.445
Civ. Adm	8	4	4	.500	Colon	8	1	7	.125

SCHEDULE FOR APRIL 3.

Colon vs. Panama Railroad.
Com.-Subsistence vs. Civil Administration.

Atlantic League Averages.

Following are the batting averages of Atlantic League players who have played in more than two games and have a percentage of more than .001, up to and including March 13:

NAME AND CLUB.	G.	AB.	R.	BH.	SB.	SH.	AV.
Farrar, C. A	7	19	7	8	6	2	.421
Lindberg, C.-S	8	27	9	11	7	0	.407
Edwards, C. A	7	25	4	10	6	1	.400
McGinnis, P. R. R	8	27	5	10	4	1	.387
Souders, Colon	7	19	1	7	0	1	.368
McCusty, C.-S	9	27	7	9	1	3	.333
Curtis, C.-S	4	15	8	5	4	0	.333
Morrell, C. A	4	9	3	3	1	1	.333
Vifquain, P. R. R	3	9	1	3	1	0	.333
Kenney, Colon	8	25	5	8	8	0	.320
Smith, C.-S	9	35	11	11	4	0	.314
Bryan, P. R R	10	32	7	10	6	0	.312
Bradley, P. R. R	5	13	0	4	2	0	.307
Coffin, C.-S	4	10	2	3	2	1	.300
Herring, P. R. R	3	10	4	3	1	0	.300
Morton, Colon	5	17	2	5	2	0	.294
Muggleton, C.-S	8	31	10	9	3	0	.290
Fleichman, C. A	6	18	5	5	0	0	.277
Reiss, C. A	3	11	2	3	3	0	.234
Simmons, C.-S	7	24	4	6	0	0	.250
Rex, C. A	5	12	3	3	1	0	.250
McCormack, C. S	9	37	9	9	4	1	.243
Lewis, P. R. R	10	25	6	6	2	4	.240
Wheeler, P. R. R	5	14	3	3	4	1	.214
Hope, Colon	6	15	2	3	2	0	.200
Reese, C.-S	4	5	1	1	0	0	.200
Gilmartin, C.-S	5	16	4	3	1	0	.187
Beard, C.-S	9	33	9	6	1	1	.181
Sprechen, Colon	4	11	0	2	2	0	.181
Payne, C.-S	8	34	8	6	3	0	.176
Weber, Colon	8	24	6	4	2	0	.166
Hiller, P. R. R	4	12	1	2	0	0	.166
Dockery, P. R R	8	19	3	3	5	0	.158
Calvert, Colon	4	14	1	2	0	0	.143
Hoffman, P. R. R	3	7	2	1	2	0	.143
Johnson, C. A	3	7	1	1	1	0	.143
Bailey, Colon	5	15	0	2	0	0	.133
Fechtig, C. A	4	15	3	2	0	0	.133
Woods, P. R R	6	16	4	2	3	0	.125
Stevens, Colon	8	25	2	3	0	0	.120
Jeffries, Colon	5	9	2	1	1	1	.111
Stratton, P. R. R	4	10	0	1	0	0	.100
Heberling, P. R. R	4	10	1	1	0	0	.100
Horsey, C. A	4	12	1	1	0	1	.083
Odea, Colon	6	15	2	1	1	0	.066

Two base hits—Farrar, 2; Lindberg, 3; Edwards, 2; McGinnis, 3; Souders, 2; McCusty, 1; Curtis, 2; Kenney, 1; Smith, 1; Bryan, 1; Bradley, 1; Herring, 2; Morton, 1; Muggleton, 1; Fleichman, 2; Simmons, 1; Lewis, 3; Hope, 1; Gilmartin, 1; Beard, 1; Hiller, 1; Woods, 1. Three base hits—Souders, 1; Herring, 1; McCormack, 1; Hope, 1. Home runs—Lindberg, 1; Bryan, 1; Lewis, 1; Payne, 1.

OFFICIAL CIRCULARS.

Acting Division Engineer-Atlantic Division.

CULEBRA, C. Z., March 24, 1910.

CIRCULAR NO. 316:

Effective Tuesday, March 22, 1910, and during the leave of absence of Lieut.-Col. Wm. L. Sibert, Maj. Chester Harding will be in charge of the Atlantic Division as Acting Division Engineer.

GEO. W. GOETHALS, *Chairman.*

Use of Lubricants.

CULEBRA, C. Z., March 24, 1910.

CIRCULAR NO. 314:

Effective this date the following rules will govern the lubrication of all steam shovels, unloaders, spreaders, track shifters, cranes and pile drivers of the Isthmian Canal Commission and Panama railroad. No lubricants will be issued or used for the different equipment except as listed below. The regular allowance given covers a working day of eight hours.

STEAM SHOVELS.

Valve oil per day	1 gallon
Car oil per day	2½ gallons
Kerosene per day	½ gallon
Cup grease per day	2 pounds
Gear grease per day	1 pound
Graphite every six months	5-pound can
Cotton waste every day	1½ pounds

Steam shovel engineers will be expected to effect as much economy as practicable in the use of lubricants and make any saving possible. If the work requires the use of oil in excess of the regular allowance, an explanation will be required. The allowance is based on the requirements of the 70 and 95-ton steam shovels in the Central Division, and of shovels working under similar conditions and making an equivalent output in the other divisions. A material reduction in consumption of lubricants will be expected for smaller shovels, and for larger shovels under other conditions.

LIDGERWOOD UNLOADERS.

Valve oil per day	1 quart
Engine oil per day	1 quart
Kerosene per month	1 gallon
Gear grease per month	25 pounds
Cotton waste per month	15 pounds

SPREADERS.

Car oil per month	5 gallons
Gear grease per month	15 pounds
Cotton waste per month	6 pounds

The above allowance is based on the requirements of the large Mann-McCann spreaders. The consumption for other spreaders should be in proper ratio.

TRACK SHIFTERS.

Valve oil per month	2½ gallons
Engine oil per month	2½ gallons
Kerosene per month	1 gallon
Gear grease per month	10 pounds
Cotton waste per month	10 pounds

LOCOMOTIVE CRANES.
25 tons and under.

Valve oil per month	5 gallons
Engine oil per month	7½ gallons
Kerosene per month	2½ gallons
Cup grease per month	10 pounds
Cotton waste per month	20 pounds

LOCOMOTIVE CRANES.
75 and 100 tons.

Valve oil per month	3½ gallons
Engine oil per month	2½ gallons
Kerosene per month	50 gallons
Cup grease per month	5 pounds
Car oil per month	5 gallons
Cotton waste per month	25 pounds

PILE DRIVERS.
Bay City.

Valve oil per month	5 gallons
Engine oil per month	5 gallons
Kerosene per month	5 gallons
Cup grease per month	10 pounds
Cotton waste per month	25 pounds

PILE DRIVERS.
Moonbeam.

Valve oil per month	2½ gallons.
Engine oil per month	2 gallons.
Kerosene per month	1 gallon.
Gear grease per month	5 pounds.
Cotton waste per month	10 pounds.

The Quartermaster's Department will arrange to carry a suitable supply of the different lubricants at the various storehouses. The different construction divisions will arrange for the distribution of lubricants in the respective divisions and the issuing of same to steam shovel and other engineers on their requisition. It is desired that the distribution and issue of lubricants for all of the above equipment be handled in the same manner as for locomotives, which system is operating satisfactorily at present and on an efficient basis.

EQUIPMENT.

Each steam shovel shall be furnished with four suitable oil containers of at least five gallons capacity each. In addition, each steam shovel shall be furnished with:

Two 24-inch spring band oilers of standard locomotive size.

One standard size locomotive tallow pot.

One 2-gallon galvanized bucket.

One long-handled chain brush.

Oilers and oil containers furnished other equipment shall be standardized in the same manner.

A record of the oil issued to the various pieces of equipment shall be kept in each division and a statement of same compiled monthly, copies of which shall be sent to the different superintendents and master mechanics concerned therein, and to me.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission,
President, Panama Railroad Company.

Reduction in Surcharge.

CULEBRA, C. Z., March 24, 1910.

CIRCULAR NO. 169-C:

Effective this date, the surcharge on material drawn by the Panama railroad from the Mount Hope storehouse, and on material drawn by the Commission from the Panama railroad storehouse at Cristobal, is reduced from 20 to 10 per cent.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission.
President, Panama Railroad Company.

Ex-Employes Central American Railroads.

CULEBRA, C. Z., March 24, 1910.

CIRCULAR NO. 315:

It is reported that employes discharged for cause by the different Central American railroads, particularly in Costa Rica, are making a practice of coming to the Isthmus to obtain work with either the Commission or Panama railroad. Such practice is detrimental to all concerned. Hereafter, any such applicants for work on the Isthmus shall be required to show their service records, and if they have been discharged for cause by any Central American railroad they shall not be employed.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Master of Transportation, P. R. R.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT.
COLON, R. P., March 26, 1910.

CIRCULAR NO. 75:

Mr. A. K. Stone is appointed master of transportation. All local agents heretofore reporting to this office will report to the master of transportation. The office of trainmaster is abolished.

J. A. SMITH, *General Superintendent.*

Approved:
GEO. W. GOETHALS, *President.*

United Fruit Company's Sailings.

CULEBRA, C. Z., March 23, 1910.

HEADS OF DEPARTMENTS AND DIVISIONS:

The following changes have been made in the sailing dates of the United Fruit Company's steamers:

Next sailing for New Orleans will be on Thursday, March 31, instead of Tuesday, March 29, as scheduled, and weekly sailings thereafter on Thursday, instead of Tuesday, as heretofore. No stop will be made at Port Limon.

Next sailing for New York, via Santa Marta and Kingston, will be on Sunday, March 27, as scheduled. Next sailing for New York after March 27, will be on Friday, April 8, via Kingston (no stop being made at Santa Marta) and weekly sailings thereafter on Friday, instead of Sunday, as heretofore.

C. A. MCILVAINE,
Acting Assistant to the Chairman.

Supplies for Canal Work.

The following steamers, with supplies for the Isthmian Canal Commission, arrived at the ports of Cristobal, Colon and Balboa during the week ending March 26, 1910:

Westfalen, March 22, from Jacksonville, Fla., with 798,640 feet Y. P. lumber, 80 pieces piling and 5,350 cross-ties for stock.

Panama, March 24, from New York, with 30 cases caps and fuses for Central Division; 25 tons steel castings for drydock store; 5,000 barrels cement for Atlantic Division; 80 packages medical supplies for Sanitary Department; 96 bales rubber hose, 30 tons W. I. pipe, 20 tons galvanized iron, 15 tons steel bars and 53 tons steel plates for stock; and a miscellaneous cargo consisting of 6,970 packages, weighing 1,680 tons.

Felix, March 24, from Baltimore, with 55,000 pounds powder for Pacific Division: 15,030 feet maple lumber for drydock store; 313 tons castings, 49 tons valve-fittings and 22 tons G. I. pipe for Gatun and Miraflores Locks; 41 tons pipe-fittings for Atlantic Division; 85 tons rail sections for Central Division; 930,582 pounds dynamite, 101 tons sewer pipe, 20 tons pipe-fittings and 502 tons bars, plates, etc., for stock.

Atenas, March 24, from New Orleans, with 2,559 cross-ties, 563 switch ties, 15 tons switches and switch stands, 183 tons fire brick, 1,004 cases kerosene oil and 50 crates grease for stock; 25 tons steel rods and 71 tons derrick parts for Atlantic Division; 22 tons steel rods for Central Division; 40,508 feet Y. P. lumber for drydock store.

Cristobal, March 25, from New York, with 31,700 barrels cement and 22 tons rail braces for Atlantic Division; 74,000 bags cement for Pacific Division.

Santa Marta, March 25, from New York, with 96 tons oats and 22 tons fire clay for stock; 1 locomotive crane for Panama railroad shops, for erection; 40 rolls wire netting for Pacific Division.

Maud, March 26, from Brunswick, Ga., with 35,000 cross-ties for stock.

Carisbrook, March 26, from Brunswick, Ga., with 40,000 cross-ties for stock.

Newport, March 22, from San Francisco (at Balboa), with 8 tons gear and drums for Atlantic Division.

Tricolor, March 24, from Puget Sound (at Balboa), with 10,303 cross-ties for stock; 75,446 feet fir lumber for Lirio yard.

Rainfall, March 1 to 26, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	.40	15	.42
Balboa	.43	15	.43
Miraflores	.16	26	.21
Pedro Miguel	.11	26	.11
Rio Grande	.07	16	.22
Central Section—			
Culebra	.07	24	.21
Camacho	.12	16	.37
Empire	.08	5	.16
Gamboa	.37	24	.55
Alhajuela	.14	26	.50
El Vigia	.29	25	.80
Gorgona	1.06	25	1.27
San Pablo	1.23	25	2 57
Tabernilla	.98	25	2.36
Bohio	.79	4	3.12
Atlantic Section—			
Gatun	1.58	25	4.96
Brazos Brook	2 28	25	5.86
Cristobal	1.19	25	3.04
Porto Bello	.78	25	3.19

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, March 26, 1910.

	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft.	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Mar. 20	126.2	93.4	46.7	2.8	1.3	0.7
Monday, Mar. 21	126.2	93.2	46.7	2.7	1.1	0.5
Tuesday, Mar. 22	126.2	93.2	46.6	2.7	1.1	0.8
Wed'esday, Mar. 23	126.1	93.2	46.6	2.7	0.9	0.6
Thursday, Mar. 24.	126.2	93.2	46.6	2.7	0.9	0.5
Friday, Mar. 25	126.4	93.3	46.7	3.0	1.0	*
Saturday, Mar. 26	126.4	93.3	46.7	3.2	1.3	*

*Bi-hourly readings discontinued on West Diversion

LOST—A gentleman's pocketbook containing two 10-dollar gold pieces, and about 90 cents in Panamanian silver, on train No. 20, Friday, March 25, between Pedro Miguel and Panama. Liberal reward for return to Martin J. Riley, Pedro Miguel, C. Z.

LOST—On Sunday, March 27, either on train No. 26, between Panama and Culebra, or at Culebra, a steel and white bead bag containing a railroad pass, a handkerchief, and some change. Finder please notify Mrs. A. H. Witmer, Hotel Tivoli.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Prices Unchanged.

The Commissary price list remains the same as last week.

New Laundry List.

A new laundry list has been issued by the Commissary Department of the Panama Railroad Company, effective March 21, 1910, as follows:

Men's articles.	*Rate. Cents.*	*Women's and Children's articles.*	*Rate Cents.*
Coats, khaki	9	Aprons	5
Coats, linen	11	Belts	1
Coats, white	12	Chemises	8
Collars	1½	Chemises, fancy	12
Cuffs, pair	3	Collars	1½
Drawers	5	Covers, corset	8
Handkerchiefs, cotton	1½	Covers, corset, fancy	12
Handkerchiefs, silk	5	Cuffs, pair	3
Jackets, overall	8	Drawers	8
Nightshirts	5	Drawers, fancy	12
Pants, khaki	9	Dresses	30
Pants, linen	10	Dresses, fancy	35
Pants, overall	8	Handkerchiefs	1½
Pants, white	10	Kimonos	10
Robes, bath	8	Night-dresses	10
Shirts, dress	10	Night-dresses, fancy	12
Shirts, silk	10	Robes, bath	8
Shirts, soft	8	Shirtwaists	10
Socks, pair	3	Shirtwaists, fancy	12
Suits, pajama	10	Skirts	15
Suits, union	8	Skirts, fancy	18
Ties	1½	Stockings, pair	3
Undershirts	5	Suits, union	8
Vests	10	Underskirts	12
FAMILY WASHING.		Underskirts, fancy	18
		Undervests	5
Bedspreads	10	Wrappers	10
Blankets	20	Wrappers, fancy	12
Doilies	1	Drawers, child's	3
Felts, table	5	Dresses, child's	10
Napkins	1	Jumpers, child's	4
Pillow cases	2	Skirts, child's	7
Rough dry, per pound	6	Waists, child's, outer	5
Scarfs	3	Waists, child's, under	3
Sheets	3		
Tablecloths	3		
Towels	1		

CLEANING AND PRESSING.

Coats, pressed	.50
Coats, cleaned and pressed	.75
Trousers, pressed	.25
Trousers, cleaned and pressed	.50
Vests, pressed	.25
Vests, cleaned and pressed	.35
Skirts, ladies', cleaned and pressed	.75-1.50
Coats, ladies', cleaned and pressed	.75-1.50
Waists, silk, cleaned and pressed	.50
Waists, lace, cleaned and pressed	.50-1.50
Dresses, cleaned and pressed	1.50-5.00

Articles enumerated as "Fancy" on face of this list mean any garment with lace insertion or ruffles.

"Rough Dry" includes all family washing that requires starching, except collars, cuffs, and men's shirts. Such articles will be washed and starched, but not ironed by the laundry.

Laundry will be collected and delivered at all points on the line where we have delivery arrangement with the Quartermaster's Department. Clean laundry will be delivered promptly to quarters when paid for at the Commissary.

At Cristobal and Colon, where the Commissary has its own delivery, coupons will be collected at houses on delivery. If coupons are not ready for payment on first delivery, a second delivery will not be made until bill is paid at the laundry.

Where laundry is sent in valuable containers, such as suit cases, both container and laundry will be at owner's risk.

Unless owner's list and count accompany package, the laundry count must be taken as correct.

We will not be responsible for shrinkage or for fastness of color.

Women's waists and dresses will be laundered at owner's risk of damage.

Where similar articles are on sale at the Commissary, no claim will be paid for over 75 per cent of Commissary price in case of loss or damage.

All claims should be addressed to the Manager, Commissary Department, Cristobal, and must be made within 48 hours after return of laundry. Claims must be accompanied by original laundry list. Laundry not claimed within four months will be sold at auction to pay charges.

This list is effective March 21, 1910. Please destroy all former lists.
JOHN BURKE, *Manager*.
Approved: EUGENE T. WILSON,
Subsistence Officer.

Proposals for Sale of Student Lamps.

OFFICE OF DEPOT QUARTERMASTER,
MOUNT HOPE, C. Z., March 19, 1910

Sealed bids will be received at the office of the Depot Quartermaster, Mount Hope, C. Z., until 3 o'clock, April 2, 1910, for the purchase of all, or any part of one thousand student lamps.

Bids must be plainly marked, "Proposals for purchase of student lamps, to be opened April 2, 1910," and addressed to the Depot Quartermaster, Mount Hope, C. Z.

At time and place above mentioned, all bids will be opened in the presence of attending bidders, the Government reserving the right to reject any or all bids.

These lamps may be seen and examined on any working day between the hours of 7 a. m. to 11 a. m., and 1 p. m. to 5 p. m., upon application to this office.

C. NIXON, *Depot Quartermaster*.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending April 6, 1910 (75th meridian time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	A. M.	P. M.	P. M.
March 31	....	1.06	6.58	1.15	7.09
April 1	....	1.40	7.33	1.48	7.44
April 2	....	2.22	8.15	2.33	8.30
April 3	....	3.15	9.10	3.35	9.30
April 4	....	4.20	10.22	4.54	10.50
April 5	....	5.35	11.43	6.12	....
April 6	12.13	6.44	P. M. 12.57	7.18	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., March 23, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Blackwood, Leyden H.
Bradshaw, Andrew
Bryan, Sam
Bryant, E. J.
Brown, J. M.
Curtis, M. S.
Diestel, Otto
Dyer, John Daniel
Freland, Kiefer
Garcia, Charles
Graham, R. Neely (2)
Grant, James
Greene, Mrs. Jacob
Howard, Frank H.
Hughes, Miss Florence
Johnson, Samuel W.
Karner, William J.
Kelsey, Miss Mabel
Lamsten, Edward
McLean, Frank
Manning, John
Mason, C. J.
Medows, Alexander A.
Morrison, Mr. & Mrs. C.H.
Muller, Arthur
Naylor, Edd
O'Brien, F. J. (pkg.)
Patton, T. J.
Sanders, Mrs. May
Seneff, George
Smith, Charles L.
Stafford, Percy
Stoddard, Burton
Walker, E. C.
Walker, Samuel J.
Waltner, Jess
White, Mark
Williams, David J.

LOST—Left in a Panama cab on Wednesday, March 23, a lady's black leather hand bag containing a package of brown ribbon, two handkerchiefs, and a Billiken coin. Reward on returning same to Ancon Hospital office.

LOST—A gold locket, on March 25, on a Sunday school excursion, between the Empire suspension bridge and Gamboa bridge. Suitable reward if returned to Lucy G. Clark, Empire.

STRAYED—A native horse, white with brown spots, slightly roached mane and bobbed tail, about 10 hands high, answering to name of "Bob." Kindly notify, or return to House 49-B, Corozal, C. Z.

LOST—On March 24, on the noon train from Gatun to Panama, a light brown leather purse. Finder is requested to leave it at the office of THE CANAL RECORD, Ancon, C. Z.

LOST—On March 26, on the way from Taboga, or in Ancon, a gold breast pin. Reward on return to A. A. Barnard, Ancon, C. Z.

FOUND—On train No. 27, on Good Friday, March 25, a lady's umbrella. Owner may recover same by calling, or writing and describing it. House 34, Ancon.

LOST—One overcoat on March 24, between Colon and Cristobal. An offer of $5 reward is made for its return to Henry Anderson, Mechanical Department, Panama Railroad Company.

LOST—Between Cristobal hotel and police station, gold plated watch fob, consisting of I. C. C. metal checks No. 47642 (star), and No. 47235 (round). Finder please leave at Cristobal police station.

The following vessels arrived at, or departed from, the port of Balboa during the week ending March 26:

Arrivals—March 19, *Ucayali*, from south ports and *Buffalo* (U.S.S.), from Corinto; March 20, *Guardian*, (cable ship) from the south; March 21, *Newport*, from San Francisco; March 22, *Chile*, from south ports and *Ecuador*, from Guayaquil; March 24, *Manavi*, from intermediate ports and *Tricolor*, from Seattle (with lumber).

Departures—March 22, *Mexico*, for south ports; *Ucayali*, for south ports and *City of Para*, for San Francisco.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Allianca	P. R. R.	Thursday	Mar. 24
Colon	P. R. R.	Thursday	Mar. 31

CRISTOBAL TO NEW YORK.

Panama	P. R. R.	Thursday	Mar. 31
Cristobal	P. R. R.	Saturday	Apr. 2
Allianca	P. R. R.	Wednesday	Apr. 6
Colon	P. R. R.	Tuesday	Apr. 12

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

NEW YORK TO COLON.

Zacapa	U.F.C.	Thursday	Mar. 31
Magdalena	R.-M.	Saturday	Apr. 2
Almirante	U.F.C.	Thursday	Apr. 7
Prinz Aug. Wilhelm	H.-A.	Saturday	Apr. 9
Santa Marta	U.F.C.	Thursday	Apr. 14
Clyde	R.-M.	Saturday	Apr. 16
Metapan	U.F.C.	Thursday	Apr. 21
Prinz Joachim	H.-A.	Saturday	Apr. 23
Zacapa	U.F.C.	Thursday	Apr. 28
Atrato	R.-M.	Saturday	Apr. 30
Almirante	U.F.C.	Thursday	May 5
Santa Marta	U.F.C.	Thursday	May 12
Metapan	U.F.C.	Thursday	May 19
Zacapa	U.F.C.	Thursday	May 26

COLON TO NEW YORK.

Clyde	R.-M.	Wednesday	Apr. 6
Metapan	U.F.C.	Friday	Apr. 8
Prinz Joachim	H.-A.	Tuesday	Apr. 12
Zacapa	U.F.C.	Friday	Apr. 15
Thames	R.-M.	Wednesday	Apr. 20
Almirante	U.F.C.	Friday	Apr. 22
Prinz Aug. Wilhelm	H.-A.	Tuesday	Apr. 26
Santa Marta	U.F.C.	Friday	Apr. 29
Metapan	U.F.C.	Friday	May 6
Prinz Joachim	H.-A.	Tuesday	May 10
Zacapa	U.F.C.	Friday	May 13
Almirante	U.F.C.	Friday	May 20
Santa Marta	U.F.C.	Friday	May 27
Metapan	U.F.C.	Friday	June 3

NEW ORLEANS TO COLON.

Turrialba	U.F.C.	Saturday	Mar. 26
Abangarez	U.F.C.	Saturday	Apr. 2
Atenas	U.F.C.	Saturday	Apr. 9
Turrialba	U.F.C.	Saturday	Apr. 16

COLON TO NEW ORLEANS.

Turrialba	U.F.C.	Thursday	Apr. 7
Abangarez	U.F.C.	Thursday	Apr. 14
Atenas	U.F.C.	Thursday	Apr. 21
Turrialba	U.F.C.	Thursday	Apr. 28

COLON TO BARBADOS, CALLING AT TRINIDAD.

Magdalena	R.-M.	Tuesday	Apr. 12
Clyde	R.-M.	Tuesday	Apr. 26

The next sailings of the Leyland Line will be as follows: *Jamaican* for New Orleans, via Kingston, Ja., on or about April 9, and *Mercian* for New Orleans, via Kingston, Ja., on or about April 18.

Hamburg-American steamers leave Colon for New York, via Kingston, every other Tuesday at 10 a. m., and for Port Limon, Costa Rica, every other Wednesday at 2 p. m.

All Royal Mail steamers mentioned above leave early in the morning from Colon, via Kingston, Jamaica, for New York. All mail and passengers should be on board early on day of sailing.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The United Fruit Company has a steamer leaving Colon every Sunday at 5 p. m., for New York City, via Kingston, Jamaica; returning, steamers from New York for Colon touch at Kingston, Jamaica. The boats in the New York service arrive at Colon on Fridays, leave Colon for Santa Marta on Saturday nights, returning leave Santa Marta at 5 p. m. Wednesdays, arriving at Colon again on Fridays. The boats in the New Orleans service arrive at Colon on Thursdays, leave Monday nights for Bocas del Toro, returning, leave Bocas del Toro Wednesday nights, arriving again at Colon Thursdays.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, APRIL 6, 1910. No. 32.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

NOTES OF PROGRESS.

Original Canal Dug.

The Canal as originally planned in the report of the Minority of the International Board of Engineers and adopted by Congress, provided for a total excavation of 103,795,000 cubic yards. Changes in the plan made subsequently by order of the President, added 70,871,594 cubic yards, bringing the total to be excavated up to 174,666,594 cubic yards. The estimate of time required for the construction of the Canal as originally planned was nine years.

The grand total of excavation accomplished down to the end of March, 1910, is 103,205,666 cubic yards, or within 590,004 of the total required for the Canal as originally planned. As the average daily output exceeds 100,000 cubic yards, the full excavation required by the original plan has been accomplished at the date upon which this issue of THE CANAL RECORD is published.

Active excavation work on a large scale did not begin till 1907, and in that year 15,765,290 cubic yards were removed. In 1908, 37,116,735 cubic yards were removed, and in 1909, 35,096,166, making the total for the two years 72,212,901, a monthly average for the entire period of over 3,000,000 cubic yards. The total excavation of 1904, 1905, and 1906 was not quite 7,000,000 cubic yards, so that nearly the entire excavation called for under the original plan has been accomplished in three and a quarter years. The excavation remaining to be accomplished is the 70,871,594 cubic yards made necessary by the changes in the plan.

Central Division and Culebra Cut.

All excavation records were broken in the Central Division during the month of March. Highest previous records were made in March, 1909. These are appended, together with the new records:

EXCAVATION.	March 1909.	March 1910.
	Cu. Yds.	*Cu. Yds.*
Daily average	76,512	76,614
From Canal prism	1,966,294	1,987,714
From Culebra section	1,434,597	1,509,728
Daily output per shovel, 8 hours.	1,327	1,388
Average No. of shovels at work	56.93	53.92

The record excavation for a single steam shovel, working 8 hours a day for one month, was made by shovel No. 213 which removed 70,290 cubic yards, place measurement. The highest record for a single day was made by the same shovel, 4,823 cubic yards, place measurement, in a day of 8 hours.

New Labor Cars.

The steel flat cars now used in labor trains will be replaced by box cars properly equipped with automatic couplings and air brakes. The Panama railroad will supply the box cars, which will be fitted up for use as labor cars after consultation with the Division Engineer in whose division the cars will be used.

Canal Work in March.

The grand total of Canal excavation in March was 3,067,479 cubic yards, 476,750 cubic yards more than the total for February. Of the 3,067,479 cubic yards, 3,048,195 cubic yards were charged to "work excavation," and 19,284 cubic yards to "plant." The dry excavation amounted to 2,178,618 cubic yards and was principally by steam shovels. The dredges removed 888,861 cubic yards in addition to the amount pumped into Gatun Dam by suction dredges. The progress on the locks at Gatun and Pedro Miguel is referred to elsewhere in this issue.

In the Atlantic Division, the total excavation was 549,439 cubic yards, 91,251 cubic yards less than in February. Of this total, 130,507 cubic yards were dry excavation and the remainder was removed by the dredges in the Atlantic entrance.

The total excavation in the Central Division was 1,994,574 cubic yards, which is 448,307 cubic yards more than that for February, and only 59,514 less than that for March, 1909, when the maximum of excavation was reached. The excavation in this division in March is referred to elsewhere in this issue of THE CANAL RECORD.

In the Pacific Division, the total excavation was 523,466 cubic yards, all but 53,537 cubic yards of which was taken out by dredges at work in the Pacific entrance.

A detailed statement of work in the three divisions follows:

ATLANTIC DIVISION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, Dam and Spillway	130,507	....	130,507
Mindi	....	....	....
Total	130,507	....	130,507
Wet excavation—			
Atlantic entrance	412,325	6,607	418,932
Locks, Dam and Spillway	....	....	....
Total	412,325	6,607	418,932
Total wet and dry excavation	542,832	6,607	549,439
CENTRAL DIVISION.			
All dry excavation—			
Culebra Cut	1,502,868	....	1,502,868
Chagres section	484,846	....	484,846
Obispo Diversion	6,860	....	6,860
Total	1,994,574	....	1,994,574
PACIFIC DIVISION.			
Dry excavation—			
Locks, Dams and Spillways	19,978	5,336	25,314
Diversions	4,990	....	4,990
Prism, south of Pedro Miguel Locks	23,233	....	23,233
Total	48,201	5,336	53,537
Wet excavation—			
Pacific entrance	462,588	7,341	469,929
Miraflores Locks	....	....	....
Diversions	....	....	....
Total	462,588	7,341	469,929
Total wet and dry excavation	510,789	12,677	523,466
TOTAL CANAL EXCAVATION.			
Dry excavation	2,173,282	5,336	2,178,618
Wet excavation	874,913	13,948	888,861
Total	3,048,195	19,284	3,067,479

Mean rainfall along Canal (eleven stations) 3.78 inches.

By "Work" Excavation is meant excavation actually made for one of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc.; that is, it represents material taken from the area to be occupied by the Canal, and constitutes excavation useful for the completed Canal.

By "Plant" Excavation is meant excavation outside of any of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc. It includes material necessary to be excavated for construction purposes only and is chargeable against the particular plant item for which it is performed, such as Prism, Diversions, Locks, etc.

DAM AND LOCK CONSTRUCTION.

MATERIAL.	Atlantic.	Pacific.	Total.
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Fill placed in dams	543,048	28,245	571,293
Concrete laid in dams and spillways	10,397	....	10,397
Concrete laid in locks.	60,998	19,107	80,105

Cement in Bags and Barrels.

In twelve voyages of the ships *Ancon* and *Cristobal*, between September 9, 1909, and February 22, 1910, there were delivered on the Isthmus 637,589 barrels of cement in wooden barrels and double duck bags, one bag inside the other. Of the total amount, there were delivered in barrels 201,809 barrels of cement, of which 2,471 were broken and recoopered, and not full, and 1,136 were damp outside. The remainder, or 435,780 barrels, was delivered in bags, of which 9,855 bags were loose and retied, or torn and had been repaired, and refilled on the dock, or had become wet, and 2,184 had set. The sweepings recovered from broken packages of both kinds amounted to 1,715 barrels.

One-half of the cement is delivered in bags and one-half in barrels. The price per barrel in barrels is $1.19 at New York and the barrels are destroyed after the cement is used, because there is no market for them on the Isthmus. The price in bags is $1.60 a barrel, but a rebate of 68 cents is allowed if all the bags are returned, making the net

NOTES OF PROGRESS.

(Continued.)

cost per barrel in bags 92 cents. A considerable percentage of the cement in bags and of the bags themselves may thus be lost without increasing the cost of cement in bags beyond that in barrels. It has been found possible to return 97.75 per cent of the bags that have not been torn or used on the Isthmus.

The greater part of the cement delivered in bags is used at the locks of the Pacific Division, where there is a less degree of moisture in the air, than at Gatun. Most of the barreled cement is used at Gatun, where the rainfall is very heavy during nine months, and where rains are frequent even in the dry season. The local conditions are such as to make the use of barrels at Gatun slightly more convenient and perhaps more economical than in the Pacific Division, where convenience and economy are in favor of the use of bags. A statement of the bags of cement in bags received by the Pacific Division and the disposal of the bags up to March 10, shows:

	Bags.
Transferred to other divisions	17,500
Empty bags shipped	530,000
In shed and on tracks	162,110
Used for cofferdams	30,000
Torn and not returnable	15,000
Total	754,610

In order to keep the lock builders at Gatun and Pedro Miguel supplied with cement it has been found necessary to resort to the use of vessels outside the regular Panama Railroad Company's service. The steamer *Bolton Hall*, the first ship thus used, is due at Cristobal within a few days, with 28,000 barrels of cement on board. The steamers *Ancon* and *Cristobal* will continue their monthly deliveries of 50,000 barrels each. The *Ancon* on the voyage from Cristobal on March 25, carried 134,200 empty bags back to the cement manufacturer.

Excavation on the Chagres Peninsulas.

Work preparatory to excavation has been begun at Points 5 and 6, near Gorgona, and it is proposed to keep shovels at work in that section above the high water line of the Chagres River throughout the coming wet season. The shovels will excavate to elevation 50 feet above sea level at least, and will complete the work to the 40-foot elevation during the dry season of 1911. These so-called "Points" are small peninsulas formed by the bends in the course of the Chagres, and there are ten of them between San Pablo, where the excavation is completed, and Bas Obispo, at the beginning of Culebra Cut. The excavation at Point 1, known as Santa Cruz, will be completed in a few weeks; that at Point 2, Matachin, is finished, and on Point 3, opposite Gorgona, the shovels have only about six weeks more of work. At Point 4, where the Gorgona baseball grounds are situated, about 730,863 cubic yards of earth are to be taken out, and the steam shovels now at work at Point 3 will be transferred to do this cutting. At Point 5, known as Juan Grande, about 431,929 cubic yards must be removed and the steam shovels now at Tabernilla will be set at work there. At Point 6, about 112,000 cubic yards are to be excavated. These three pieces of work are on the west side of the river, and suitable dumps can be opened nearby. Between Point 3 and Caimito, about 508,000 cubic yards of material remain to be excavated, all on the east side of the river.

Concrete Operations at Gatun Locks.

The record of concrete laid at the Gatun Locks, by days of 12 hours, during the week ending April 2 is as follows:

	Cubic Yards.
March 28	2,430
March 29	2,590
March 30	2;700
March 31	2,750½
April 1	2,553½
April 2	2,559
Total	15,583
Previously reported	276,640
Grand total	292,223

During the week, 1,344 cubic yards of concrete were placed in the spillway of Gatun Dam.

Cucaracha and Culebra Slides.

The work of taking out the earth and rock that are sliding into Culebra Cut at Cucaracha was discontinued last week, when the last of the steam shovels that have been digging there was taken off the bench in front of the slide. A berm from 40 to 100 feet wide has been left along the entire front and most of the material that moves forward will be caught by this bench. It is probable that some of it will flow over into the prism of the Canal, and if it does the steam shovels at work on the lower levels in the prism will take it out.

This movement of material from the hillside into the Cut began as early as 1884, during the time when the French were at work on the Canal, and it has caused some inconvenience to the Americans ever since the excavation was begun at that point in 1905. A mass of earth and rock, estimated at from 500,000 to 800,000 cubic yards, is apparently slipping on a smooth substratum of rock, the movement being perceptible at all times of the year, but considerably accelerated by the rains from May to December. The method of handling this material has been to maintain a bench on which one or more steam shovels could be kept at work, at about elevation 170 feet above sea level, and when the material moved onto this berm or bench, to dig it out and haul it to the dumps. In this way about 1,850,000 cubic yards of material have been taken out, and the mass which formerly stood at a slight angle to the vertical has assumed a position more nearly horizontal than vertical.

Although the slide at Cucaracha is better known, the one that has developed in front of the village of Culebra is larger. Three steam shovels are handling all the material that moves into the Cut from this slide without difficulty, and it is not anticipated that much inconvenience will be caused by it during the rainy season.

Railroad Survey Begun.

Mr. George H. Ruggles Superintendent of Public Works under the Commission, has been designated by the President of the Panama railroad to take charge of the surveying forces that are to make the preliminary and location surveys for the railroad from Panama to David. Five locating parties have been put in the field, each to survey from 60 to 75 miles of the line, and the Chief Engineer of the Panama Railroad Company, Lieut Frederick Mears, U. S. A., and Mr. Ruggles have gone to David by water with the intention of returning by horseback to Empire, making a reconnaissance of the proposed route. The contract, in which the Panama Railroad Company agrees to carry on the surveys, has been made and $25,000, the first installment of the total amount to be paid for the survey, has been turned over by the Republic of Panama.

Concrete Work at Pedro Miguel.

The output of concrete at the Pedro Miguel Locks during the week ending April 2 was the largest so far attained in a period of six days, and the amount mixed and laid on March 29—1,108 cubic yards—was the best record for one day at this point. Of the total of 5,444 cubic yards produced, 2,862 cubic yards were mixed by the permanent construction plant; 1,420 by the 2-cubic yard mixers, and 1,162 by the ½-cubic yard mixers of the auxiliary plant. The amount of concrete placed, and of large stones laid in mass, during six days of eight hours, for the week ending April 2 was as follows:

	CUBIC YARDS.	
	Rock.	Concrete
March 28	10	923
March 29	16	1,108
March 30	12	919
March 31	12	802
April 1	2	823
April 2	19	869
Total	71	5,444
Previously reported	377	79,363
Grand total	448	84,807

Rock Crushing at Porto Bello.

A statement of the rock crushed at Porto Bello, and the time the crushers were in operation, by days, during the week ending April 2 follows:

	Hours worked.	Cubic Yards.
March 28	9:24	2,336
March 29	9:29	2,700
March 30	11:50	3,117
March 31	10:50	2,785
April 1	6,10	1,335
April 2	12:13	3,061
Total	49:16	15,334

Leasing of P. R. R. Lots.

The President of the Panama railroad has directed that in the making of new leases for lots on which old leases have expired, such lots be duly advertised with the right reserved to reject any or all bids. In cases where lessees have erected buildings on the lots their bids will be given preference when the lot is again leased, provided they submit what is considered a reasonable bid, and are desirable tenants.

Cruisers En Route to Buenos Aires.

The U. S. armored cruisers *Tennessee*, Capt. Bradley A. Fiske, and *South Dakota*, Capt. James T. Smith, arrived at Panama, on April 2. They will coal and leave on April 13 for Buenos Aires, where they will join the fleet that is to represent the United States at the Argentine exposition.

The operation of the crane boat *La Valley* in the harbors of Colon and Cristobal has been taken from the joint control of the Panama railroad and Atlantic Division, and placed under the Atlantic Division. A charge will be made to the railroad and to private parties when the boat is operated in their interest.

HEAVY MARCH RAINFALL.

Largest Since American Occupation.

The rainfall in March was the heaviest since work was begun by the Americans, and at the principal points along the line of the Canal, exceeded the average for all the years of record.

A statement follows showing the precipitation at various stations, compared with that in March, for the previous six years, and with the average for the years of record:

STATIONS.	Years of record.	Av. in Mar. for years of record.	1910	1909	1908	1907	1906	1905	1904
		Ins	*Ins*	*Ins*	*Ins*	*Ins*	*Ins*	*Ins*	*Ins*
Cristobal....	39	1.60	5.32	1.85	3.53	2.16	1.42	0.62	1.65
Porto Bello..	1	....	7.34	3.56	....	....	....	....	.. ..
Gatun.......	4	2.22	8.09	2.99	2.81	3.42	2.37	0.28	....
Bohio........	15	1.61	6.38	3.66	1.77	1.82	0.88	0.43	3.16
Gamboa......	26	0.80	2.89	0.56	0.50	0.35	0.16	0.41	1.91
Alhajuela....	10	0.61	2.59	0.29	0.24	0.18	0.28	1.60	0.59
Culebra......	20	0.75	1.90	0.15	0.13	0.08	1.34	....	1.46
Ancon.......	12	0.87	1.66	0.18	0.03	*T	0.05	....	....

*Trace.

The rainfall in the first three weeks of the month was not abnormal, the heavy precipitation coming during the last ten days, as will be seen from the following statement:

STATIONS.	DAYS.				
	1 to 5	6 to 12	13 to 19	20 to 26	27 to 31
	Ins.	*Ins.*	*Ins.*	*Ins.*	*Ins.*
Cristobal.....	0.26	0.06	0.50	2.22	2.28
Porto Bello...	1.11	0.22	0.73	1.13	4.15
Gatun........	0.51	0.19	1.11	3.15	3.13
Bohio.........	1.19	0.13	0.27	1.53	3.26
Gamboa......	0.03	0.03	0 06	0.43	2.34
Alhajuela....	0.02	0.02	0.14	0.32	2.09
Culebra......	0.03	0.01	0 08	0.09	1.69
Ancon........	*T	*T	0.41	0.01	1.24

*Trace.

Effect of Rains on Excavation.

The rains during the past ten days have so soaked the swampy ground at the north end of the Chagrecito excavation, where three shovels were at work, that it was necessary to shut them down. If the ground dries out the work will be finished this year, otherwise, it will be postponed until next dry season.

On the 1st of April there were left at Chagrecito about 175,000 cubic yards to be excavated, approximately 36,000 cubic yards of which will be taken out by contract. The three shovels that were shut down at Chagrecito will probably be transferred to Points No. 5 and No. 6, between Juan Grande and Mamei, where they will continue to work throughout the wet season.

The steam shovels working on the 40-foot elevation, bottom of the Canal, opposite Gorgona, were forced to suspend on March 31 and April 1, on account of the high water in the Chagres River.

Rain also interfered with the clearing that is being done in the Gatun Lake ship channel between Barbacoas and Gatun. All the timber has been felled, and the work of burning was within two weeks of completion when the wet weather interfered. The contract excavation in progress at and near Bohio was also interfered with by the rains, and the output fell at least 5,000 cubic yards below what had been expected in March.

No appreciable difference was made in the slides along Culebra Cut by the unexpected rainfall.

March Rainfall for Three Years.

STATION.	1908.	1909.	1910.	Station average.	Years of record.	No. rainy days—1910.
Pacific Section—	*Ins.*	*Ins.*	*Ins.*			
Ancon...........	.03	.18	1.83	.89	12	8
Balboa..........	T	.14	2.16	.99	11	6
Miraflores......	......	1.11	2.49	1.80	2	6
Pedro Miguel....	.10	.59	1.46	.72	3	5
Rio Grande......	.14	.18	1.69	.42	6	10
Central Section—						
Culebra..........	.13	.15	1.36	.75	20	11
Camacho........	.38	.40	2.36	.82	4	14
Empire..........	.41	.21	1.60	.57	5	9
Gamboa..........	.50	.56	3.12	.88	26	13
Alhajuela........	.24	.29	2.74	.78	11	12
El Vigia.........	......	.32	2.95	1.64	2	11
Gorgona.........	......	......	2.98	1.30	5	11
San Pablo........	.49	.46	4.47	1.81	3	16
Tabernilla.......	.73	.99	5.44	2.39	3	17
Bohio............	1.77	3.66	6.60	2.08	15	21
Trinidad.........	1.97	3.08	8.18	4.41	3	23
Monte Lirio......	2.72	4.85	9.57	5.71	3	26
Atlantic Section—						
Gatun...........	2.81	2.99	9.08	3.49	6	24
Brazos Brook....	3.01	2.90	9.71	4.40	4	20
Cristobal.........	3.53	1.85	5.46	1.70	41	18
Porto Bello......	......	3.56	6.32	3.60	3	22

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, April 2, 1910.

DAY AND DATE.	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft..	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, Mar. 27.....	127.3	93.9	46.7	3.1	1.2	....
Monday, Mar. 28....	128.8	95.4	48.6	6.2	3.8	....
Tuesday, Mar. 29...	127.4	94.1	47.6	5.7	3.8	....
Wed'esday, Mar. 30	127.2	94.0	47.4	4.6	2.8	....
Thursday, Mar. 31.	135.5	99.4	54.3	12.0	7.0	....
Friday, April 1....	132.6	97.5	51.4	9.8	7.0	....
Saturday, April 2..	127.5	94.6	48.1	8.1	4.8	....

Promotion in Engineering Positions.

The Chairman and Chief Engineer has called the attention of officials of the Isthmian Canal Commission and the Panama railroad to the necessity of filling all vacancies in the higher grades by promotion from the lower, in order to secure a steady flow of promotion that will encourage men entering at the rate of rodman and remaining in the service of the Commission and Panama railroad. Recently requests have been received for the appointment in the United States of levelmen at $125 per month. The proper method of handling such a vacancy would be for the division interested to fill the position by the promotion of a levelman in its own, or some other division—in the the latter case by transfer—at $100 and to fill the vacancy in the $100 levelman grade by the promotion of a rodman at $83.33. So far as possible it is desired, as would be the case in the above example, that all new men of this class brought down from the States shall be of the grade of rodman. The number of Commission employes in these grades at the different rates of pay, as taken from the February pay rolls, is as follows:

DIVISION.	DESIGNATION AND MONTHLY RATE OF PAY.							
	Rodmen.	Levelmen.				Transitmen.		
	$83.33	*$83.33	$100	*$112.50	$125	$150	*$162.50	$175
Atlantic Division.	3	....	5	....	7	6	....	2
Central Division..	2	....	5	....	7	8	....	5
Pacific Division..	8	2	2	....	3	4	1	....
Chf. Engr's. office	1	....	1	1	3	1	....	....
Total...........	14	2	13	1	20	19	1	7

It is desired that the intent and spirit of the foregoing be observed in the future. No future appointments, of course, can be made to the starred ratings above.

PERSONAL.

Members of the Panama Canal Fortification Board and the party accompanying them have returned to the States. Gen. William Crozier, chief of ordnance; Gen. William L. Marshall, chief of engineers; Gen. Arthur Murray, chief of coast artillery; and Capt. Stanley Embick, U. S. A., who arrived on the *Ancon* on March 17, sailed on that vessel on March 25. Gen. W. W. Wotherspoon, Maj. W. G. Haan, U. S. A.; Commander W. J. Maxwell and Commander H. F. Knapp, U. S. N., who arrived on the *Cristobal* on February 22, sailed on that ship on April 2.

Mr. W. W. Warwick, accompanied by Mrs. Warwick and their child, sailed on the *Cristobal* on February 22, for annual leave in the States.

Examination for Colored Teachers.

An examination will be held at the Ancon school building Saturday, April 30, for colored teachers. All are eligible to sit at this examination—sessions 8 to 12 a. m., and 1 to 5 p. m. Subjects: Arithmetic, American history, grammar, geography, reading, writing, spelling, and hygiene. To become qualified for appointment on this examination a minimum grade of 65 per cent, with an average in all subjects of not less than 75 per cent is required.

FRANK A. GAUSE,
Superintendent of Schools.

Married.

EVANS-WILLIAMS—At St. Luke's church, Ancon, on Sunday evening, March 27, Minnie Elizabeth, daughter of Mrs. Ida C. Williams, to Mr. Joseph Ashby Evans, the Rev. Henry B. Bryan officiating.

HUGHES-KEATOR—At Gatun, on Sunday afternoon, March 27, Nellie, daughter of Mr. and Mrs. E. O. Keator, to Mr. Charles Hughes, the Rev. William H. Cross officiating.

LOST.—On Saturday evening, March 26, in Colon, a gold open face watch. Engraved on the back "C. E. V. F."; also, a gold chain fastened to which was a locket, and a brass check, I. C. C. No. 45576. Finder will receive liberal reward by returning these articles to, or communicating with, C. E. Vau Fleet, Bas Obispo, Canal Zone.

WEATHER CONDITIONS, CANAL ZONE, MARCH, 1910.

STATIONS.	Press're (reduc'd to mean of 24 hours.)	Temperature.					Mean relative humidity.	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches.	Station average per month.	Number of rainy days.	Total movement (in miles.)	Prevailing direction.	Max. velocity (in miles.)	Direction.	Date.
Cristobal..............	29.910	77.5	83	31	67	21	81	5.46	1.70	18	10,306	N.	33	N.W.	16
Culebra...............	29.900	77.4	90	14	61	21	85	1.36	.75	11	7,254	N.W.	31	N.	3
Ancon.................	29.884	79.4	94	13	65	10	84	1.83	.89	8	7,366	N.W.	27	N.W.	4

RECORD OF CANAL WORK SINCE AMERICAN OCCUPATION.

MONTHLY TOTALS BY CUBIC YARDS OF EXCAVATION AND LOCK AND DAM CONSTRUCTION.

[*All figures are of work useful for the completed Canal.*]

DRY EXCAVATION.

CENTRAL DIVISION.

MONTHS.	CULEBRA SECTION.*							CHAGRES SECTION.**			
	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1907.	1908.	1909.	1910.
January		70,650	120,990	566,750	1,227,022	1,150,249	1,323,693		169,447	389,399	175,802
February		75,200	168,410	639,112	1,248,265	1,215,648	1,259,173		200,145	428,988	286,309
March		132,840	239,178	815,270	1,290,885	1,434,597	1,509,728		324,233	619,491	484,846
April		126,749	213,177	879,527	1,242,574	1,274,356			329,483	508,410	
May	27,556	75,935	196,209	690,365	960,840	1,126,963			235,902	386,170	
June	32,551	76,905	212,623	624,586	1,134,032	1,242,134			322,145	275,900	
July	31,599	78,570	159,789	770,570	1,121.325	1,200,828			345,757	233,897	
August	35,056	49,210	244,823	786,866	1,173,800	1,173,370		2,900	366,810	231,543	
September	25,220	44,085	291,452	753,468	1,122,860	1,235,978		21,546	346,948	235,818	
October	19,695	52,940	327,009	834,499	1,160,101	1,302,901		25,627	424,911	221,409	
November	28,860	60,540	221,642	790,632	1,022,576	1,070,792		44,044	336,390	93,619	
December	42,935	70,630	307,689	1,025,485	1,210,046	1,152,022		98,652	383,948	105,044	
Totals	243,472	914,254	2,702,991	9.177,130	13,914,326	14.579,838	4,092,594	192,769	3,786,119	3,729,688	946,957

ATLANTIC DIVISION. / PACIFIC DIVISION.

MONTHS.	ATLANTIC DIVISION. COLON (MINDI)†		ATLANTIC DIVISION. GATUN LOCKS, DAM AND SPILLWAY.††			PACIFIC DIVISION. PEDRO MIGUEL LOCKS.‡			PACIFIC DIVISION. MIRAFLORES LOCKS, DAMS AND SPILLWAY.‡‡		
	1909.	1910.	1908.	1909.	1910.	1908.	1909.	1910.	1908.	1909.	1910.
January	45,664		292,155	102,690	125,011		83,726	27,320	7,203	61,202	31,579
February	46,046		282,797	95,031	123,738		58,242	9,486	39,046	53,689	14,850
March	70,713		374,598	90,051	130,507		95,624	6,784	73,194	51,417	18,184
April	74,368		373,456	70,009			101,365		98,943	60,060	
May	71,407		266,747	52,786			57,523		73,023	47,588	
June	80,101		244,951	36,556		13,228	70,971		68,691	55,653	
July	82,378		213,359	39,058		22,648	77,503		104,369	50,999	
August	66,249		188,262	40,346		22,217	58,025		94,248	35,446	
September	61,437		145,990	49,945		28,833	48,825		90,923	31,803	
October	72,643		154,064	57,321		48,875	39,002		74,700	25,349	
November	42,009		118,278	63,452		55,401	20,207		52,930	18,644	
December			119,904	96,590		65,578	28,342		69,650	20,083	
Total	713,015		2,774,561	793,835	379,256	256,780	739,355	43,590	846,920	511,933	64,613

*Total to April 1, 1910, 45,624,605 cubic yards.

**Total to April 1, 1910, 8,655,533 cubic yards.

†Total to April 1, 1910, 1,476,821 cubic yards; in this total are included 172,851 cubic yards removed in 1907, and 590,955 cubic yards removed in 1908.

††Total to April 1, 1910, 5,314,459 cubic yards; in this total are included 26,628 cubic yards excavated October to December, 1906, and 1,340,179 cubic yards in 1907; there were also 38,425 cubic yards removed by dredges at Gatun Dam site in 1907.

‡Total to April 1, 1910, 1,039,725 cubic yards.

‡‡Total to April 1, 1910, 1,423,466 cubic yards; there were also 78,233 cubic yards excavated at Balboa locks and dams in 1907; and 172,615 cubic yards at different points in prism to April 1, 1910.

WET EXCAVATION.

MONTHS.	ATLANTIC DIVISION. ATLANTIC ENTRANCE.§				ATLANTIC DIVISION. GATUN LOCKS.		PACIFIC DIVISION. PACIFIC ENTRANCE.§§						PACIFIC DIVISION. Miraflores Locks.§§§
	1907.	1908.	1909.	1910.	1908.	1909.	1905.	1906.	1907.	1908.	1909.	1910.	1910.
January	111,100	490,701	521,050	510,055		97,043		95,940	94,710	460,250	469,529	516,945	
February	110,002	427,722	444,910	493,448		132,291		95,940	93,480	663,519	671,477	280,591	
March	84,145	546,886	461,208	412,325		141,838		116,820	92,319	783,281	865,696	462,588	
April	69,889	496,366	470,635			17,938		110,700	104,855	676,539	731,767		
May	133,847	564,386	315,370			52,011		112,340	122,157	530,466	720,753		
June	124,118	572,749	182,575			38,829	50,676	62,697	133,575	656,621	844,685		
July	109,922	625,497	348,451				41,533	98,400	108,338	696,170	733,181		
August	194,297	638,217	422,846				54,530	111,930	168,284	737,774	623,263		
September	403,842	624,776	410,574				114,308	105,780	153,975	750,080	662,976		
October	415,120	505,260	314,778				81,836	97,170	357,122	762,276	720,920		
November	422,797	570,832	457,889				71,176	92,988	365,423	609,089	627,791		
December	442,835	679,604	489,121		8,583		71,094	90,528	349,551	729,960	727,460		
Totals	2,621,914	6,742,996	4,839,407	1,415,828	8,583	479,950	485.153	1,191,233	2,143,789	8,056,025	8,399,498	1,260,124	

§Total to April 1, 1910, 17,047,610 cubic yards; in this total are included 399,820 cubic yards excavated in 1905, and 1,027,645 cubic yards in 1906.

§§Total to April 1, 1910, 21,535,822 cubic yards; there were also 172 cubic yards removed by steam shovels during October, 1908.

§§§Total to April 1, 1910, 309,647 cubic yards, all of which was taken out by dredge in 1909.

CONCRETE IN LOCKS AND DAMS.

MONTHS.	GATUN LOCKS.			PEDRO MIGUEL LOCKS.			MIRAFLORES LOCKS.	
	1909.	1910.	1911.	1909.	1910.	1911.	1909.	1910.
January		54,136			16,273			
February		55,696			13,218			146
March		60,998			18,793			314
April								
May								
June								
July							28	
August	1,298						74	
Sept	12,294			2,370				
October	29,378			8,310				
Nov'mber	30,270			10,169				
December	42,832			13,007				
Total	116,072	170,830		33,856	48,284		102	460

From March 17, 1909, to April 1, 1910, there were placed in the Spillway of Gatun Dam 70,582 cubic yards of concrete, including 10,397 cubic yards placed in March, 1910; in Miraflores Dam there were placed 321 cubic yards up to April 1, 1910.

FILL PLACED IN DAMS.

MONTHS.	GATUN.*		PEDRO MIGUEL.†	MIRAFLORES.‡	
	1910.		1910.	1910.	
	Wet.	Dry.	Dry.	Wet.	Dry.
January	178,254	237,801			28,151
February	292,215	271,788	11,510		1,438
March	332,661	210,387	22,860		5,385
April					
May					
June					
July					
August					
September					
October					
November					
December					
Total	803,130	719,976	34,370		34,974

*Dry fill begun in January, 1907, and 2,096,477 cubic yards of wet, and 2,405,890 cubic yards of dry fill were placed in 1907, 1908 and 1909.

†170,166 cubic yards placed in dams up to December, 1909, inclusive.

‡138,587 cubic yards of wet fill and 472,091 cubic yards of dry fill were placed in dams up to December, 1909. There were also 85,420 cubic yards of backfill for locks placed up to April 1, 1910.

CANAL EXCAVATION TO DATE.

By French Companies		78,146,960
French excavation useful to present Canal		29,908,000
By Americans—		
Dry excavation	63,785,629	
Dredges	39,420,037	
Total		103,205,666
May 4 to December 31, 1904	243,472	
January 1 to December 31, 1905	1,799,227	
January 1 to December 31, 1906	4,948,497	
January 1 to December 31, 1907	15,765,290	
January 1 to December 31, 1908	37,116,735	
January 1 to December 31, 1909	35,096,166	
January 1 to March 31, 1910	8,236,279	

TOTALS BY DIVISIONS AND AMOUNT TO BE EXCAVATED.

DIVISIONS.	Amount excavated.		Remaining to be Excavated.	
Atlantic—				
Dry excavation	6,791,280	24,365,848	2,770,631	18,711,462
Dredges	17,574,568		15,940,831	
Central—				
Culebra Cut	45,624,605	54,280,138	32,417,690	35,514,355
All other points	8,655,533		3,096,665	
Pacific—				
Dry excavation	2,714,211	24,559,680	3,216,369	17,235,111
Dredges	21,845,469		14,018,742	
Grand totals		103,205,666		71,460,928

PACIFIC DIVISION SAND.

Where It is Obtained and Methods of Handling—Output for March.

According to a superficial estimate there are 12,000,000 cubic yards of sand available at Point Chamé, but it is probable that 1,500,000 cubic yards will cover the requirements for Canal construction from this deposit. About 1,000,000 cubic yards will be used for the concrete work at the Pedro Miguel and Miraflores Locks, while the shipments to Gatun, and the sand required for miscellaneous purposes will make up the remainder.

It is expected that when the Pacific Division sand transportation fleet is fully equipped and the unloading cranes are in steady operation, 2,000 cubic yards of sand can be handled daily. At the present time this figure is often reached, but not maintained. The transportation fleet now consists of eight barges, each of 500 cubic yards capacity, and two, each of 400 cubic yards capacity, one tug, the *La Boca*, and a supply boat, the *Chamé*. An additional barge of 500 cubic yards capacity is on the stocks at the shipways and will be ready for service in a short time. The tug facilities are somewhat limited, but this will be relieved when the new tug now building in the States is placed in commission.

The sand excavation at Point Chamé is accomplished by one ladder dredge, the *Gopher* having performed most of the work so far, and the crew of this dredge is the only force employed there. The work is carried on in broken watches, the men taking their rest while waiting for the arrival of empty barges. When barges are on hand the work is carried on day and night. The force employed on the barges and tug work practically on the same schedule, but as yet there has been no night unloading at the dock, although electric lights have been installed so that the cranes can be operated if necessary. The supply boat *Chamé* makes regular trips to the sand bed with provisions, including ice and cold storage supplies. The distance from Balboa to Point Chamé is 23 miles, and the course is indicated at night by post-lights which have been placed on some of the islands along the route. A light has also been stationed at the extremity of the Point.

Point Chamé is a long, low, sandy peninsula extending into the sea in a southeasterly direction. It is covered with a scrubby growth of vegetation, interspersed here and there with a clump of coconut palms, while a few marañon and other tropical fruit trees exist. There is a small collection of native huts two miles from the end of the point, but the village of Chamé is situated about 20 miles away, at some distance inland from the peninsula. The great sand spit forms Chamé Bay, and the location is very favorable for the dredging operations, which are as a rule well sheltered from heavy seas, although occasionally when the wind is blowing from a certain quarter, the waves become choppy and troublesome. The neighboring islands of Otoque, Chamé and Taboga afford considerable shelter to the route over which the tows are hauled.

The sand dredge is working about half a mile from the extremity of the Point, and is confining its operations to a zone along the shore extending from the beach line at low tide to as far seaward as the dredge can excavate. The exact depth of the sand bed has never been determined, but borings made at different points along the shore to a depth of 40 feet failed to reach the bottom of the deposit. The dredge excavates to a depth of 35 feet at low tide, and works back and forth between the beach line and deep water. The owners of land on the peninsula recently advanced the claim that the removal of sand was causing the shore line to sink. An investigation disproved this, and the measurements that are being taken from time to time show no movement of the shore sand. In moving the dredge to new locations, it has had occasionally to pass over sections already dredged. While this was being done, the machinery was set in motion, but the buckets came up empty showing that the hole previously excavated had not filled up, as would have been the case had the shore sand pressed in. The deposit continues all along both sides of the peninsula, and blue clay, which underlies the region, appears near the surface in only one locality, that opposite the small native pueblo. The sand varies according to locality, and samples of the varieties have been taken and catalogued.

The three unloading cranes which convey the sand from the barges into the bins at the Balboa dock, are completed and two are in regular operation. One of the cranes will be held in reserve, and the third rail on which they operate is being moved further south along the dock, in order that the reserve crane can be moved out of the way of the others. These cranes were furnished by the Cleveland Crane & Engineering Company of Wycliffe, Ohio. They are of the self-propelling cantilever type running on two rails spaced 55-foot centers. The storage bins, which have a combined capacity of 2,500 cubic yards, are located beneath the tower trusses, and a cantilever arm 33 feet long reaches out over the sand barges, the cantilever and tower trusses forming a continuous track 88 feet in length.

Each crane is designed to operate a 3-yard self-digging grab bucket at a maximum rate of 200 cubic yards per hour from barges to bins, or to trains alongside of bins. The cranes are so designed that two may work from the same barge at the same time. Each crane is operated by three motors. The hoist motor is a 100-h.p., 560-r.p.m. machine, with a hoist speed of 300 feet a minute; the trolley motor is a 20-h.p., 835-r.p.m. machine, with an average speed of 550 feet a minute, and the bridge moving motor is a 15-h.p., 1300-r.p.m. machine capable of giving a speed of 50 feet per minute. All of the motors are constructed to use a 550-volt direct current.

Deliveries of sand at the dock during the month of March averaged about 1,000 cubic yards a day. The total output was 30,746 cubic yards, as compared with 23,613 cubic yards during February, the previous best record. The cost of dredging the sand during the month of February was .2995 a cubic yard; the cost of towing .1413; the cost of unloading at dock .2157, and the cost of land transportation, .2161, making a total cost in dredging and handling of .8726 a cubic yard. The dredging of sand at Point Chamé was begun in August, 1909, and the output to April 1 aggregated 104,859 cubic yards. The March distribution was as follows:

DESTINATION.	No. of Cars.	Cubic Yards.
Atlantic Division	218	4,585
Pacific Division	2,119	25,503
Central Division	40	373
Balboa Shipways	4	75
Panama Railroad	5	125
Ramon Arias F., Panama	5	85
Total	2,391	30,746

Missing Men.

Information is desired regarding the present address of Jules Grilland, a machinist, aged 40, who is believed by his family to be on the Isthmus. Any one having knowledge concerning him is requested to communicate with his brother, Martin Grilland, corner of Canal and St. Charles Streets, New Orleans, La.

Information is wanted concerning Stephen Merrill, who left his home in Jersey City in June, 1905. He was a Spanish war veteran, and his occupation that of plumber and steamfitter. Prior to his departure, he mentioned going to the Isthmus. Any one having knowledge of him is requested to communicate with his father, Charles Merrill, R. F. D., Thompsonville, Conn.

A steam shovel has been set at work in Culebra Cut, for drainage purposes, north of Pedro Miguel Locks. This cut will reach elevation plus 45 feet at the Panama railroad bridge.

Band Concerts.

The Isthmian Canal Commission Band will give a concert at Hotel Tivoli, Ancon, C. Z., on Sunday, April, 10, 1910, at 7.30 p. m. The program follows:

1 March—*Hampton Roads*............ .....Alexander
2 Selection—*Prince of Pilsen*.................Luders
3 Reverie—*Sicilian Chimes*.......................Mills
4 Overture—*Hungarian Lustspeil*........Keler Bela
5 Intermezzo—*Margarita*.......................Mills
6 Medley Selection—*Kerry Mills' Latest Songs*...Schulz
Introducing—"Yes She Did," "Under the Chicken Tree," "I'm Tired of Living Without You," "Take Me Out for a Joy Ride," "Where Were You Last Night," "You'll Have to Ask Mother," "Pass Dat Possum," "When a Pal of Mine Steals a Girl of Mine," "The Longest Way 'Round is the Sweetest Way Home," "Lonesome," "Rag Time Dance," "Don't Be an Old Maid, Molly," "A Georgia Barn Dance," "We're Almost Home," and "Sun Bird."
7 Intermezzo, Minuet and Barcarolle from "Les Contes d'Hoffman" (by request) Offenbach
8 Selection—*The Huguenots*..............Meyerbeer
9 Waltz—*Impassioned Dream*................. Rosas
10 March—*Chateau Gontier*..................Fischlin

The Isthmian Canal Commission Band will give a concert at Cristobal, C. Z., on Wednesday, April 13, 1910, at 8.15 p. m. The program follows:

1 March—*Chicago Tribune*...............Chambers
2 Selection—*The Huguenots*..............Meyerbeer
3 Medley Selection—*Come Back to Connemara*.Grey
4 Cornet Solo—*Serenade* (by request)......Schubert
Chas. E. Jennings.
5 Reminiscenses of Scotland by (request)..Godfrey
Introducing—"Scots Wha Hae," "Auld Robin Gray," "Bonnie Laddie," "The Campbells Are Coming," "The White Cockade," John Anderson, My Jo," "Logie O'Buchan," "Green Grow the Rushes O'," "The Braes of Auchterarder," "Annie Laurie," "Within a Mile of Edinboro," "Bonnet Blue" (with variations for different instruments), "Blue Bells of Scotland," "Tullochgorum," "Auld Lang Syne," and Finale.
6 Intermezzo from Cavalleria Rusticana (by request)....................................Mascagni
7 Overture—*Comique*.......................Keler Bela
8 Fantasia—*My Old Kentucky Home*........Dalbey
(With variations for different instruments.)
9 Potpourri—*Kerry Mills' Latest Songs*......Schulz
Introducing—"Pass Dat Possum," "When a Pal of Mine Steals a Girl of Mine," "The Longest Way 'Round Is the Sweetest Way Home," "Lonesome," "Rag Time Dance," "Don't Be an Old Maid, Molly," "A Georgia Barn Dance," "We're Almost Home," and "Sun Bird."
10 March—*The New Colonial*.......................Hall

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Culebra, C. Z., on Sunday, April 17, at 5.45 p. m.

SOCIAL LIFE OF THE ZONE.

Women's Clubs, Sunshine Society and Other Activities.

Election of officers has been held in two of the women's clubs in the past week. At Pedro Miguel, the election took place at the business meeting in the clubroom on Wednesday afternoon, March 30, Mrs. Geo. Brown being reelected president. The other officers are: Mrs. George Jennings, vice-president; Mrs. H. Girdner, secretary; Mrs. James Doyle, treasurer. At the close of the business meeting, a reception was held in honor of Mrs. W. E. Smith, who is leaving the Isthmus for an indefinite period. The social meeting on Wednesday, April 6, will be held at the home of Mrs. Mark White in Ancon.

Officers were elected in the Gatun club for the ensuing three months on Friday afternoon, April 1, the following being chosen: Mrs. Perry F. Underhill, president; Mrs. J. H. Stevenson, vice-president; Miss Edna Hanna, secretary; Mrs. J. S. Hanna, treasurer. The meeting was held in one of the committee rooms in the Commission clubhouse, and at the end of the business session refreshments were served. The complimentary entertainment which was to have been held in the clubhouse on the same evening, with an address on Mexico by the Rev. William H. Cross, has been indefinitely postponed.

The meeting of the Gorgona Woman's Club on Thursday, March 31, was in charge of the art department. The home department will furnish a program at the meeting on April 7. On April 14, there will be a business meeting with an election of officers for the ensuing six months.

At the meeting of the Empire club on Thursday afternoon, March 31, an April Fool Day program was the feature. Refreshments were served.

On Saturday afternoon, March 25, the Gatun Sunshine Society held the final meeting for the year, when a review of the work of the organization was read by the secretary, Mrs. E. O. Keator. The first sunshine society on the Isthmus was organized in 1908 at Gatun, when a few women met once a week for the purpose of sewing. Later, it was decided that this sewing circle might become organized with a definite object, and as the result of correspondence with the secretary of the International Sunshine Society in New York, a branch society was organized at Gatun. During the two years, a number of entertainments and sales have been held, the entire proceeds of which amount to $310. Of this sum, $54 has been subscribed to the home for homeless working girls, a charity maintained by the society; $25 was sent at Christmas for the Blind Babies' Home in Summit, N. J., and the remainder, $275 has been forwarded to headquarters to be applied to the same object. It is the wish of the branch to furnish a room in the Home. In a recent report published in the Sunshine Bulletin, the official organ of the International Society, it is stated that the Gatun branch ranks third in the amount of money subscribed to the work of the society during the year. Although there have been a number of changes, owing to removals, a membership of 24 has been sustained since September. The society owns a sewing machine and other equipment, which has been placed in charge of Mrs. William Farrow until the opening of the fall season. Mrs. Farrow will also act as official representative for correspondence and business during the vacation period. On Wednesday afternoon, March 30, the president of the branch, Mrs. H. C. Porter, entertained 22 members at her home in honor of the secretary, Mrs. Keator, and Mrs. Nat M. Johnson, both charter members, who have left the Isthmus for their homes in the States.

The Gatun Masonic Club held an anniversary entertainment at the clubhouse on Saturday evening, April 2. There was a program consisting of songs, recitations, and instrumental solos, Mrs. Combes, Mrs. Schreiber, Mrs. Hughes and Mr. Storm taking part. Dancing was begun at 9 o'clock, and refreshments were served later in the evening. The club was organized one year ago and has a membership of 75.

A dancing club has been formed by the Kangaroos of Court No. 4, Las Cascadas. Dances are held on the second and fourth Thursday evenings in each month. An admission fee of fifty cents is charged to defray the incidental expenses. The organization held its second dance on Thursday evening, March 31.

A cake sale and informal dance was held by St. Mary's Guild, Empire, in the Commission clubhouse on Wednesday evening, March 30. Besides cakes and homemade sweets, aprons and small fancy articles were sold. The proceeds will be devoted to the benefit of the guild to be expended for church purposes.

The hour for the quarterly meeting of the Isthmian Sunday School Association to be held in Corozal on Sunday afternoon, April 10, is 3 o'clock. There will be no special train, but those wishing to attend may leave Colon on the train at 1 p. m.

A minstrel entertainment by home talent will be given in the recreation hall at Corozal on Friday evening, April 8.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

The pool contest last Thursday night, between Wehmier of Cristobal, and Flynn of Culebra, was won by Wehmier, the scores being 47 to 100.

A smoker will be held at the Y. M. C. A. on Friday night of this week. A good program has been arranged, and it is hoped that a large number of men will be there to enjoy it. Remember Friday night, April 8.

Plans are under way for big pin bowling. Men that want to get in shape for the All Isthmian Tournament, that usually begins in July should start in to practice now. The alleys will be open at times to suit.

Now is the time for men to come in and join the Camera club. If enough interest is taken and prints brought in a contest will be held. Leave your name at the office.

EMPIRE.

The lecture by Professor Carr on Friday night of last week was exceedingly interesting. The subjects spoken on were: Fort Lorenzo, Porto Bello, Old Panama and English pirates. This was one of the series of lectures Professor Carr is giving on Isthmian history. All members are invited to attend these lectures. Every Friday night.

The regular gymnasium class schedule will be dropped, but Monday and Thursday nights will be open for those wishing to use the gymnasium.

There will be a basketball game played on the Empire floor every Wednesday night. On Wednesday night of last week the "Orioles" defeated the "Tigers", by a score of 17 to 14. The line-up was as follows:

Tigers—Seaton, rf; Smith, lf; Mullane, center; Kelley, rg, McCullough, lg. Orioles—Gustavson, rf; Moore, lf; Johnson, center; Hobbs, rg; Swarzbach, lg.

On the bowling alleys last Saturday night, the Bachelors defeated the Married Men two out of three games of ten pins, the scores being as follows: Bachelors—782, 850, 853; Married Men—829, 773, 815.

The Chicago ten pin bowling team are ready to meet all comers, the Indianapolis team of Cristobal preferred. Address Captain Bardelson, care of Empire Y. M. C. A.

The results of the duck pin league will be published in next week's issue of THE CANAL RECORD.

The Camera club contest was won last week by Mr. F. W. Miracle. The club has changed its meeting night, and after this will hold its regular weekly meeting on Tuesday nights.

CAMP ELLIOTT.

The gymnasium, which has recently been opened, is contributing largely to the amusement of the men in camp. From 150 to 200 men can be seen on the floor every evening.

On Thursday night of last week the first stag party, under the direction of the Y. M. C. A., was held. The gymnasium was crowded to its capacity. The program was given by local talent and furnished an evening of fun for all. Lemonade, sandwiches, olives and cigars were served.

On Saturday night, April 2, the bouse was crowded to see the moving pictures. The "Post" has a good machine and one entertainment is given every week.

Sunday night, April 3, the men enjoyed an evening of song. The secretary made a short address on "The Power to Overcome."

GATUN.

Gorgona defeated Gatun in a game of indoor baseball at the Gatun clubhouse, on Thursday night of last week, by a score of 27 to 18.

A large number of the ladies of Gatun are availing themselves of the privileges of the clubhouse on the afternoons set aside for their use.

Clarence Lincoln still holds the record on the bowling alleys among the boys, his score being 156. The "Angels" took three games from the "Cableways" last Friday night. On Tuesday night of last week the "All Stars" defeated the "Cableways."

The first regular systematic gymnasium class was held on Monday night of this week for the men, and Monday afternoon for the boys.

The barber shop recently opened at the clubhouse is well patronized on account of the first-class service given.

A camera club will be organized in the near future.

The days for the boys' department will be Mondays and Wednesdays from 3.30 to 5 p. m., and Fridays from 9 to 11 a. m. Tuesdays and Thursdays from 2 to 5 p. m. will be given over to the ladies of Gatun.

CRISTOBAL.

The basketball game between the "Dixies" and the Indianapolis team on Wednesday night of last week was won by the "Dixies" by a score of 38 to 3. The schedule for this week is the "Dixies" vs. the New York team, and the regular Y. M. C. A. team against the Lincoln House.

The league indoor baseball game played last Saturday night with Gorgona resulted in a score of 18 to 10 in favor of Gorgona.

There was a large attendance at the men's meeting on Sunday afternoon. This "drop in" meeting will be held regularly each Sunday at 2.15. All men are cordially invited to come.

The pool and billiard tables have been recovered and are now in good shape.

Our membership has reached the 401 mark. We have 99 to get before the first of May.

GORGONA.

The following men have been appointed by the Gorgona council as the membership committee: H. W. Otis, F. M. Chelf, Tom Charnley, H. D. Burnham, Geo. Lowe, G. H. Pierson, A. Kenyon, O. H. Kunce. H. A. McConaughey, S E. Calvit, W. E. McFee, I. A. Hall, F. E. Sheridan, A. B. Caruthers, J. C. Deavours, H. J Loughery, L. U. Cole, C. P. Wheeler, A. R. Gundefinger, F. Nagle, Chas. Bordt, H. H. Bushnell, Wm. Keenan, S. H. Nicodemus, J. Christensen, Geo. Stoehr, A Wilson, C. S. Boyer, H. Sprechen, C. W. Cramm, H. J. White, J. S. Butler, Thos. J. Williams, F. V. Von der Brugge, M. A. Lynch, W. J Wright, E. L. Emery, L. R. Deust, E Haldeman, Frank Fessler, F. G. Swanson.

The moving picture entertainment given on Wednesday night, March 30, by E. E. Drake of Las Cascadas was enjoyed by a large audience. Illustrated songs were sung as follows: "Sweetheart Days" by Miss Anderson, "Won't You be My Honey" by Mr. Wright, and "When the Winter Days are Over" by Mr. Hayes.

OFFICIAL CIRCULARS.

Transit Time a Part of Sick Leave.

CULEBRA, C. Z., March 29, 1910.

CIRCULAR NO. 132-G:

Employes discharged from a hospital of the Isthmian Canal Commission, who are entitled to pay for the whole or any part of the period of their detention in the hospital, may also be paid for the time required to return to their official stations, provided they proceed by the first train or boat and report for duty immediately on arrival.

Such transit time will be considered a part of sick leave, and the time given on the time roll will cover the time shown in sick certificate and the necessary transit time, but an employe will receive no pay for any time consumed in traveling which is not a part of his regular working hours.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Pay of Employe Absent on Account of Injury.

CULEBRA, C. Z., March 29, 1910.

CIRCULAR NO. 235-B:

Attention is called to the fact that an employe entitled to the benefit of the Act of Congress of May 30, 1908, is to receive, when away from work on account of injury occurring in the course of employment, "the same rate of pay as if he continued to be employed."

In a number of cases such employes have been promoted or reduced, or recommended for promotion or reduction in pay, while absent from work on account of injuries incurred in the course of employment.

This is contrary to the purpose of the law, and hereafter such employes should neither be promoted nor reduced, nor recommended for promotion or reduction, except when the change is to take effect upon their return to duty.

It is also directed that no employe absent on vacation leave, meritorious sick leave or ordinary sick leave be either promoted or reduced.

GEO. W. GOETHALS, *Chairman.*

Employment of European Laborers.

CULEBRA, C. Z., March 30, 1910.

CIRCULAR NO. 229-F:

European laborers who have no contract with the Isthmian Canal Commission may be employed at 16 cents an hour. Their pay may be increased to 20 cents an hour after six months' satisfactory service.

These instructions supersede those published in Circular No. 229 as revised to February 1, 1910, which prescribes three months' satisfactory service.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Pedro Miguel Railroad Station

CULEBRA, C. Z., April 2, 1910.

HEADS OF DEPARTMENTS AND DIVISIONS:

The General Superintendent of the Panama railroad advises that the railroad is prepared to abandon shortly the present station at Pedro Miguel. The building will be transferred to the Isthmian Canal Commission if it can be used to advantage by any department or division, and if not, will be sold and removed. Please advise me whether the building can be used to advantage by your department or division.

GEO. W. GOETHALS, *Chairman.*

Cancellation of Requisitions for Gold Employes by Cable.

CULEBRA, C. Z., April 1, 1910.

HEADS OF DEPARTMENTS AND DIVISIONS:

In the past, in some instances, requisitions for gold employes, forwarded to the United States for filling, have been cancelled by cable, causing great hardship. This practice should be avoided whenever practicable. It is believed that the necessity for such action arises more from lack of foresight than any real marked change in working conditions. The Washington office has been notified that all care will be observed to reduce to a minimum the number of cancellations of requisitions by cable from the Isthmus, and to interpret any such cable instructions as not applying to any men who, having been tendered appointments, have given up their positions, or have incurred any appreciable expense on account thereof. Such men will be allowed to proceed to the Isthmus under their appointments and will have to be taken care of, temporarily at least.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Use of Gatun-Culebra Labor Train.

CULEBRA, C. Z., March 29, 1910.

TO ALL CONCERNED:

Permission to use the Gatun-Culebra labor train will be granted upon application to the Division Engineer, Gatun, when such application is approved by the head of the department or division in which the employe requesting such permission is employed.

This has particular reference to crews of trains tied up over night at points other than the stations at which the crews are quartered, but may include, also, other employes who find it necessary to use this train.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Survey of Instruments to be Sold.

CULEBRA, C. Z., March 30, 1910.

HEADS OF DEPARTMENTS AND DIVISIONS:

There have been several instances lately where instruments and machines have been forwarded to the States to be disposed of either in part payment for similar equipment, or by direct sale, before having been acted upon by the Surveying Officer.

It is directed that hereafter no instruments or machines shall be shipped to the States for disposal without first securing an approved survey.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Acting Examiner of Accounts.

CULEBRA, C. Z., April 1, 1910.

HEADS OF DEPARTMENTS AND DIVISIONS:

Effective April 2, 1910, Mr. T. L. Clear will act as Examiner of Accounts during the absence of Mr. W. W. Warwick on leave.

GEO. W. GOETHALS, *Chairman.*

Supplies for Canal Work.

The following steamers, with supplies for the Isthmian Canal Commission, arrived at the ports of Cristobal and Colon, during the week ending April 2, 1910:

Allianca, March 30, from New York, with 31 tons bolts and nuts, 500 bundles shovels, 6 tons pipe-fittings, 600 bundles brooms, 500 cases lubricating oil, 55 bundles wire, 36 tons steel bars, 497 ash cans, and 257 coils rope for stock; 35 packages medical supplies for Sanitary Department; 173 cases incandescent lamps and 76 cases electric fuses for stock; and a total of 348 tons (3,041 packages) miscellaneous cargo.

Turrialba, March 31, from New Orleans, with 19 tons engine parts for Atlantic Division; 10,560 feet yellow pine lumber for Pacific Division; 35 creosoted piles, 2,259 yellow pine cross-ties, 250 crates lubricating grease, 12 tons push cars, and 1,300 cypress cross-ties for stock; 10,560 feet yellow pine lumber for dry-dock store stock.

Proposals for Sale of Bed Sheets and Student Lamps.

OFFICE OF THE DEPOT QUARTERMASTER,
MOUNT HOPE, C. Z., April 5, 1910.

Bed sheets and student lamps will be sold at the office of the Depot Quartermaster, Mount Hope, Canal Zone, bids for which will be received until 2 p. m., April 19, 1910, from persons desiring to purchase all, or any of the following:

5,000 bed sheets, unbleached, 72" x 90".
700 bed sheets, bleached, 72" x 90".
1,000 student lamps.

Bids must be plainly marked, "Proposals for Purchase of Bed Sheets and Student Lamps, to be opened April 19, 1910," and addressed to the Depot Quartermaster, Mount Hope, Canal Zone.

At time and place above mentioned all bids will be opened in the presence of attending bidders, the Government reserving the right to reject any or all bids.

These bed sheets and student lamps may be seen and examined on any week day between the hours of 7 a. m. to 11 a. m., and 1 p. m. to 5 p. m., upon application to this office.

C. NIXON,
Depot Quartermaster.

LOST—At Culebra, Monday, March 28, 1910, a diamond ring, Tiffany setting, with marking inside. A suitable reward offered for its return to H. C. Neville, House 135, Culebra.

ISTHMIAN LEAGUE.

RESULTS OF GAMES, APRIL 3.

Marines, 9; Ancon, 4.
Gorgona, 5; Empire, 1.

STANDING OF CLUBS.

	P.	W.	L.	Pc.		P.	W.	L.	Pc.
Empire	18	13	5	.722	Ancon	17	7	10	.412
Gorgona	19	13	6	.684	Marines	20	4	16	.200

SCHEDULE FOR APRIL 10.

Marines at Ancon.
Empire at Gorgona.

Marines.	AB.	H.	PO.	A.	E.	Ancon.	AB.	H.	PO.	A.	E
McCabe, 3b	4	0	1	1	0	Pearman, 3b	2	0	2	2	1
Lubomski, lf	6	3	3	0	2	Drennan, rf	4	2	1	0	0
Hurley, ss	6	1	2	7	2	Tinsley, ss	4	1	0	3	0
J. Snyder, cf	5	1	0	0	0	Smith, lf, 1b	4	1	5	0	1
Litz, 1b	5	3	9	0	1	Hunter, cf	3	0	3	1	0
Scarff, 2b	3	1	3	2	1	A. Snyder, 2b	4	0	0	2	0
Apple, rf	4	0	0	0	0	Frampton, c	3	0	7	0	1
Amey, c	2	1	8	0	0	Nygren, 1b	2	0	8	0	2
Munsen, p	1	0	0	2	2	Wrightson, p	2	0	1	4	2
Nuss, p	2	0	1	2	0	Poltrino, lf	1	0	0	0	0
Totals	38	10	27	14	8	Totals	29	4	27	12	7

Marines	0	4	1	1	0	2	1	0	0—9
Ancon	1	2	0	1	0	0	0	0	0—4

Runs—Marines: McCabe, J. Snyder (2), Litz (3), Amey (2), Munsen; Ancon: Runs—Pearman, A. Snyder, Nygren, Wrightson. Runs earned—Marines, 2. Two base hit—Litz. Sacrifice hits—McCabe, Scarff (2), Hunter, Frampton. Stolen bases—Litz, Scarff, Apple, Amey, A. Snyder (2), Frampton (2), Nygren. Bases on Balls—Off Munsen, 3; off Nuss, 3; off Wrightton, 6. Struck out—By Nuss, 6; by Wrightson, 7. Hit by pitcher—By Wrightson—Amey. Left on bases—Marines, 11; Ancon, 6. Double play—Scarff to Hurley to Litz. Umpire—Cooling. Time of game—2.15. Scorer—J. K. Muoroe.

Gorgona.	AB.	H.	PO.	A.	E	Empire.	AB.	H.	PO.	A.	E
Clements, cf	4	0	4	0	0	Dixon, ss	4	0	0	1	2
Massen, p	5	0	0	2	0	Bryan, 3b	4	0	0	2	0
Magee, lf	3	1	3	1	0	S. Fluh'ty, 2b	4	2	0	1	0
Barney, c	4	1	7	0	0	Bell, 1b	4	1	12	2	1
Wright, 1b	3	0	7	2	1	Christopher, p	4	2	1	2	0
Emery, 3b	3	1	2	2	1	E. Fluh'ty, lf	4	0	0	0	1
A. Ridge, ss	4	1	3	2	0	Markley, c	2	0	11	4	0
J. Ridge, 2b	3	0	0	2	1	Murphy, cf	3	1	2	0	0
Heltemes, rf	3	1	1	0	0	Toone, rf	2	0	0	0	0
Totals	32	5	27	11	3	Totals	31	6	26*	12	4

*Clements out on infield fly.

Gorgona	0	0	1	0	0	0	1	3	0—5
Empire	0	0	0	0	0	0	0	0	1—1

Runs—Gorgona: Clements, Magee, Barney, Emery, J. Ridge; Empire: S. Fluharty. Runs earned—Gorgona, 1; Empire, 1. Two base hits—Emery, Murphy. Home run—Barney. Sacrifice hits—Emery, Heltemes. Stolen bases—Clements, Magee, Wright, A. Ridge, Christopher, S. Fluharty (2). Bases on balls—Off Munsen, 2; off Christopher, 4. Struck out—By Munsen, 4; by Christopher, 10. Passed balls—Markley, 2. Left on bases—Gorgona, 6; Empire, 4. Double plays—Magee to Wright; Dixon to Bell to Markley. Umpire—Foster. Time of game—1.45. Scorer—L. P. Worrall.

ATLANTIC LEAGUE.

RESULTS OF GAMES, APRIL 3.

Panama Railroad, 3; Colon, 2 (nine innings.)
Com.-Subsistence, 8; Civil Administration, 5.

STANDING OF CLUBS.

	P.	W.	L.	Pc.		P.	W.	L.	Pc.
Com-Sub	10	9	1	.900	Civ. Adm	9	4	5	.444
P. R. R.	10	5	5	.500	Colon	9	1	8	.111

SCHEDULE FOR APRIL 10.

Panama Railroad vs. Civil Administration.

P. R. R.	AB.	H.	PO.	A.	E.	Colon.	AB.	H.	PO.	A.	E
Dougherty, 2b	4	1	1	1	0	Weber, 3b	3	1	1	2	1
Case, p	2	0	0	3	0	Calvert, J. lf	4	0	2	0	1
Bryan, lf	4	0	1	0	0	Herring, c	3	1	6	2	0
Wheeler, ss	4	2	1	1	0	Sonders, cf	4	0	0	0	0
Lewis, cf	4	0	2	0	1	Cleary, 2b	4	0	3	3	1
Osborn, rf	2	0	0	0	0	Stevens, 1b	3	0	9	0	1
Heberling, c	4	1	15	2	0	Hope, rf	3	1	1	0	0
Hiller, 1b	2	0	4	0	1	Bailey, ss	3	0	1	2	0
Davis, 1b	1	0	2	0	0	Goree, p	3	0	1	4	1
King, 3b	2	1	1	0	0	Totals	30	3	24*	13	5
Dockery, 3b	1	0	0	1	0						
Totals	30	5	27	8	2						

*None out when winning run was made.

Panama Railroad	0	2	0	0	0	0	0	1	1—3
Colon	2	0	0	0	0	0	0	0	0—2

Runs—P. R. R.: Wheeler, Lewis, (2); Colon: Weber, Herring. Run earned—Colon, 1. Two base hit—Hope. Home run—Herring. Sacrifice hit—Osborn. Wild pitch—Goree. Stolen bases—Weber, Dougherty, Case, Wheeler. Bases on balls—Off Case, 2; off Goree, 1. Struck out—By Case, 14; by Goree, 5. Hit by pitcher—Osborn. Passed ball—Herring. Left on bases—P. R. R., 7; Colon, 3. Double play—Cleary to Stevens. Umpire—Rohr. Time of game—1.40. Scorer—Rennard.

C.-S.	AB.	H.	PO.	A.	E.	C. A.	AB.	H.	PO.	A.	E
Smith, 3b	4	2	1	1	2	Morrell, lf	4	0	2	0	0
Lindberg, cf	3	2	0	0	0	Farrar, cf	3	1	2	0	2
Curtis, ss	4	2	2	1	1	Edwards, 1b	4	0	4	2	3
Muggleton, rf	4	0	1	0	0	Rex, c	2	0	8	0	0
Coffin, 1b	3	1	7	0	1	Fleichman, 3b	3	2	2	4	0
Payne, 2b	3	1	3	1	0	Bath, ss	2	1	1	2	0
McCormack, lf	4	1	0	0	0	McKeever, 2b	2	0	1	1	1
McCusty, c	3.	1	7	2	0	Major, rf	3	0	0	0	0
Simmons, p	2	0	0	2	0	Russell, p	2	1	1	3	1
Beard, p	1	0	0	2	0	Totals	25	5	21	12	7
Totals	31	10	21	9	4						

Com.-Subsistence	2	1	1	0	0	0	4—8
Civ. Admin	0	0	0	1	2	1	1—5

Runs—C.-S: Smith, Lindberg, Curtis (3), Muggleton (2), McCusty; C. A.: Farrar, Edwards, Fleichman (2), Russell. Runs earned—C.-S., 2; C. A., 2. Three base hit—Lindberg. Home runs—Fleichman, Russell. Sacrifice hit—McKeever. First base on errors—C. A., 3; C.-S.: 7. Sacrifice flies—Coffin, Payne. Hits—Off Simmons, 1; off Beard, 4. Stolen bases—Smith (2), McCormack (2), McCusty, Curtis, Lindberg, Farrar, Edwards. Bases on balls—Off Russell, 1; off Beard, 1. Struck out—By Russell, 3; by Beard, 4. Hit by pitcher—Rex, Farrar, Russell; Left on bases—C.-S., 6; C. A., 4. Passed balls—Rex (2), McCusty. Double play—Russell to Fleichman. Umpire—Rohr. Time of game—1.15. Scorer—Rennard.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning April 1.

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (5 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (5 to 8 pounds)	per lb	24
Chops	per lb	26
Cutlets	per lb	25
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	†22
Beef—Suet	per lb	2
Soup	per lb	5
Stew	per lb	9
Corned	per lb., 12, 14,	16
Chuck roast	per lb	13
Pot roast	per lb	15
Rib-roast, second cut (not under 3½ pounds)	per lb	18
Rib-roast, first cut (not under 3 pounds)	per lb	20
Sirloin roast	per lb	21
Rump roast	per lb	21
Porterhouse roast	per lb	21
Steak, Chuck	per lb	14
Round	per lb	15
Rib	per lb	20
Sirloin	per lb	21
Porterhouse	per lb	21
Rump	per lb	21
Tenderloin	per lb	24

MISCELLANEOUS.

Livers—Beef	per lb	8
Calf	each	60
Half	each	30
Sausage—Pork	per lb	17
Bologna	per lb	14
Frankfurter	per lb	14
Leberwurst	per lb	14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	25
Oysters, in 1-quart kegs	keg	55
Oysters, in ½-gallon kegs	keg	90
Eggs, fresh	dozen	30

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, large	each	1.50
medium	each	1.30
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese	each	2.50
Rabbits	each	50
Pheasants	each 70,	1.00
Partridges	each	50
Grouse	each	85

CURED AND PICKLED MEATS.

Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Sugar cured	per lb	†23½
Sugar-cured, sliced	per lb	†27
Half, for boiling	per lb	†24½
Boiled	per lb	26
Hocks	per lb	‡8
Bacon—Breakfast, whole piece	per lb	24
Breakfast, sliced	per lb	25
Beef, salt, family	per lb	9
Pork, salt, family	per lb	15
Ox tongues	each	80
Pigs' feet	per lb	8
tongues	per lb	16
Mutton, mess	per lb	7

DAIRY PRODUCTS.

Butter—Creamery special	per lb	40
Cheese—Roquefort	per lb	38
Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	26
Edam	each	1.00
Neufchatel	each	6
Gouda	per lb	34
Milk, Briarcliff	bottle	**25
Butter	bottle	**15

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	8
Lettuce	per hd † 12, 16,	20
Cucumbers	per lb	25
Potatoes, white,	per lb	3
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	†3½
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	3
Cabbage	per lb	3
Rhubarb	per lb	10
Lemons	dozen	24
Apples,	per lb	6
Tangerines	each	2
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., April 6, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

LETTERS UNCALLED FOR MARCH 30, 1910.

Barnebay, Walter
Brennan, Earl
Brown, Mrs. D. C. (pkg.)
Brown, Emily
Browne, Claude
Burkhalter, Wayne Edison
Carney, F. R.
Cogan, R. F. J.
Conkerton, John
Fisher, Clinton
Fleet, Chapin S.
Frazer, Miss Isabel
Guill, Enos H.
Heenan, Jas.
Hinn, Geo.
Hill, V. L.
Huber, Charles
Hughes, Jack
Ives, Mrs. F. W. B.
Keating, Dennis
Keen, Hugh B.
Kenyon, Alpha, Jr.
Kincaid, Mrs. Geo.
Louis, F. E.
Mahoney, John
Mahones, Jas.
Mahoney, J. C.
Marshall, William L.
Matthews, V. (pkg.)
Mayers, James A.
McCaulley, Q.M. Sgt. E.P.
Moriarty, Mrs. John
Neely, Graham R.
O'Brien, F. J.
Padking, W. (2)
Painter, Joe H.
Ramon, Valez
Sanders, J. T.
Shaw, C. S.
Smith, F. G.
Smith, C. L.
Taylor, H.
Wendorff, Fred
Wentzler, Mrs. Harry E.
Will, Franck
Willette, Henry
Wyman, Miss Eliza
Ziegler, John Y.

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LETTERS UNCALLED FOR APRIL 6, 1910.

Anderson, Mrs. Henrietta
Brewster, Norman H., M. D.
Burton, Samuel
Campbell, D. N. E., M. D.
Darling, Geo. N.
Davis, Miss Mary
Day, Clair P.
Dennis, Samuel A.
Dunn, M. J. (2).
Duryea, Forrest S.
Estes, W. B., M. D.
Evans, Mrs. Aurelia
Halligan, Mrs. T.
Hepon, Ignacio
Haywood, McNicol
Hicks, Edwin Ernest, M. D.
Hopkins, Jess T.
Johnson, H. C.
Jones, Charles A.
Judah, Sydney F.
Koch, Miss Mammie
Macphee, Dug
Martin, Mrs. W. L.
Milderberger, V. R.
Myrie, H. C.
Orr, Wm.
Pfeffer, Adolf
Pode, Stephen
Powell, Frederick H.
Severn, Mrs. Anna
Shaw, C. S.
Simmons, J. A.
Whitby, James
Willet, R. A.
Woods, Miss Louisa
Yokum, R. L.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending April 13, 1910 (75th meridian time):

DATE.	High.	Low.	High.	Low.
	A. M.	A. M.	P. M.	P. M.
April 7	1.24	7.43	1.54	8.13
April 8	2.20	8.35	2.43	9.02
April 9	3.09	9.22	3.30	9.47
April 10	3.55	10.07	4.13	10.32
April 11	4.38	10.50	4.56	11.16
April 12	5.22	11.36	5.40	MDT. 12.00
April 13	6.06	P. M. 12.20	6.23	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

The following vessels arrived at, or departed from, the port of Balboa during the week ending April 2:

Arrivals—March 28, *Peru*, from San Francisco; March 29, *Huallaga*, from Callao; March 30, *Aysen*, from south ports, and *San Gabriel*, (Portuguese man-of-war); March 31, *Chiriqui*, from intermediate ports.

Departures—March 27, *Chile*, for south ports; March 28, *Ecuador*, for Guayaquil; March 30, *Tricolor*, for Puget Sound; *Newport*, for San Francisco, and *Manavi*, for intermediate ports; April 1, *Huallaga*, for Callao.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Advance	P. R. R.	Wednesday	Apr. 6
Panama	P. R. R.	Tuesday	Apr. 12
Allianca	P. R. R.	Monday	Apr. 18
Colon	P. R. R.	Monday	Apr. 25
Advance	P. R. R.	Saturday	Apr. 30
Panama	P. R. R.	Friday	May 6
Allianca	P. R. R.	Thursday	May 12
Colon	P. R. R.	Wednesday	May 18
Advance	P. R. R.	Tuesday	May 24
Panama	P. R. R.	Tuesday	May 31

CRISTOBAL TO NEW YORK.

Allianca	P. R. R.	Wednesday	Apr. 6
Colon	P. R. R.	Tuesday	Apr. 12
Advance	P. R. R.	Monday	Apr. 18
Panama	P. R. R.	Sunday	Apr. 24
Allianca	P. R. R.	Saturday	Apr 30
Colon	P. R. R.	Friday	May 6
Advance	P. R. R.	Thursday	May 12
Panama	P. R. R.	Wednesday	May 18
Allianca	P. R. R.	Wednesday	May 25
Colon	P. R. R.	Tuesday	May 31

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

NEW YORK TO COLON.

Magdalena	R.-M.	Saturday	Apr. 2
Almirante	U. F. C.	Thursday	Apr. 7
Prinz Aug. Wilhelm	H.-A	Saturday	Apr. 9
Santa Marta	U. F. C.	Thursday	Apr. 14
Clyde	R.-M.	Saturday	Apr. 16
Metapan	U. F. C.	Thursday	Apr. 21
Prinz Joachim	H.-A	Saturday	Apr. 23
Zacapa	U. F. C.	Thursday	Apr. 28
Atrato	R.-M.	Saturday	Apr. 30
Almirante	U. F. C.	Thursday	May 5
Prinz Aug. Wilhelm	H.-A	Saturday	May 7

COLON TO NEW YORK.

Clyde	R.-M.	Wednesday	Apr. 6
Metapan	U. F. C.	Friday	Apr. 8
Prinz Joachim	H.-A	Tuesday	Apr. 12
Zacapa	U. F. C.	Friday	Apr. 15
Thames	R.-M.	Wednesday	Apr. 20
Almirante	U. F. C.	Friday	Apr. 22
Prinz Aug. Wilhelm	H.-A	Tuesday	Apr. 26
Santa Marta	U. F. C.	Friday	Apr. 29
Metapan	U. F. C.	Friday	May 6
Prinz Joachim	H.-A	Tuesday	May 10

NEW ORLEANS TO COLON.

Abangarez	U.F.C.	Saturday	Apr. 2
Atenas	U.F.C.	Saturday	Apr. 9
Turrialba	U.F.C.	Saturday	Apr. 16

COLON TO NEW ORLEANS.

Turrialba	U F.C.	Thursday	Apr. 7
Abangarez	U.F.C.	Thursday	Apr. 14
Atenas	U.F.C.	Thursday	Apr. 21
Turrialba	U.F.C.	Thursday	Apr. 28

COLON TO BARBADOS, CALLING AT TRINIDAD.

Magdalena	R.-M.	Tuesday	Apr. 12
Clyde	R.-M.	Tuesday	Apr. 26

The next sailings of the Leyland Line will be as follows: *Jamaican* for New Orleans, via Kingston, Ja., on or about April 9, and *Mercian* for New Orleans, via Kingston, Ja., on or about April 18.

Hamburg-American steamers leave Colon for New York, via Kingston, every other Tuesday at 10 a. m., and for Port Limon, Costa Rica, every other Wednesday at 2 p. m.

All Royal Mail steamers mentioned above leave early in the morning from Colon, via Kingston, Jamaica, for New York. All mail and passengers should be on board early on day of sailing.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

The United Fruit Company has a steamer leaving Colon every Sunday at 5 p. m., for New York City, via Kingston, Jamaica; returning, steamers from New York for Colon touch at Kingston, Jamaica.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, APRIL 13, 1910. No. 33.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Relocated Track Laid to Gamboa.

The ends of the Panama railroad relocated line were joined on March 28, near Monte Lirio and there is now a continuous track between Gatun and Gamboa. The track chart prepared on April 3, 1909, which designated the dates upon which various sections of the road between Gatun and Gamboa should be laid, provided for completion of track laying in the final section, that from the Quebrada Brazo to the Rio Gatun at Monte Lirio, on June 1, 1910, or two months later than the actual date of track completion. The work during the past three months has been greatly expedited in order not to delay the closing of the West Diversion at Gatun. There is still a great amount of work to be done in this section, in completing the fills and bringing the track up to permanent grade. The first car in the passenger service to pass over the Monte Lirio section of the road was the Panama railroad pay car, which made the trip on Sunday, April 10.

Cold Storage at Ancon.

A small building has been erected near the steam pumping plant at Ancon for use as a cold storage for Hotel Tivoli, and the residents of Ancon and the Tivoli section. It is of frame construction, 16 x 33 feet in size, has a concrete floor, and is surrounded on three sides by a 5-foot concrete walk. The ice box is located in the south end of the building and consists of a meat room, vegetable room and a place for the butcher to carve his meats. The overhead system of icing will be employed for the present, but mechanical refrigerating will be installed as soon as the machinery, now on order in the States, is received. There is a delivery room in the north end of the building where all cold storage supplies will be issued. Under the present arrangement supplies, including ice, received on the commissary train are unloaded at the Panama railroad station and distributed from there. This plan will be discontinued and all supplies unloaded at the new plant as soon as it is ready for service. Track facilities are already provided for by the spur which extends through the Tivoli section from the Balboa branch, and an unloading platform will be erected at the end nearest the ice box. It is proposed to keep a certain amount of stock on hand at the cold storage for emergencies.

New I. C. C. Commissioner.

The nomination of Mr. Maurice H. Thatcher of Kentucky, as a member of the Isthmian Canal Commission, which President Taft sent to the Senate on March 28, was confirmed by the Senate on April 7. Mr. Thatcher fills the vacancy caused by the resignation of Mr. J. C. S. Blackburn in December last. He will sail for the Isthmus early in May.

Leasing of Panama Wharf.

Over a year ago the Panama Railroad Company abandoned the wharf in the city of Panama known as the "English Wharf," and since that time its chief use has been as a place of delivery of coal for the National Navigation Company. Part of the wharf has been condemned and no effort is made to maintain the remaining part, because it is not likely that the Panama Railroad Company will want to use it again. It has therefore been determined to advertise the wharf for rental for a period of fifteen years to the highest bidder.

Central Division Train Crews.

In order that the members of Central Division train crews may return to their homes at night during the rainy season so as to get dry clothing, a number of amendments have been authorized to the present method of accommodating them. On the south end, five hauling crews are now quartered at Balboa and Ancon. These crews will be transferred to Pedro Miguel, so that all south end hauling crews will be quartered at Pedro Miguel and Paraiso. The last engine hauling a dirt train into Balboa, in the afternoon, will pick up a labor car and bring it, together with a train of empty spoil cars, to Pedro Miguel, overtime being avoided by allowing this engine to leave Pedro Miguel at 7.30 o'clock the next morning, instead of 6.30. A shop engine will start from Paraiso at 5.40 a. m., with the labor car, delivering the men at Balboa in time to take up their work at 6.30 o'clock. Overtime in the case of this crew will be avoided by extending the noon intermission 50 minutes.

Crews handling trains on the north end of the Cut, who are at Gatun at quitting time at night, may either return to the villages between Culebra and Gatun on the Atlantic Division labor train, or remain in the Central Division quarters at Gatun, which will be fitted up with dry lockers, in which a change of clothing and dry bed clothing may be kept. The five hauling crews at Tabernilla will be quartered at Las Cascadas, and men who find themselves at Tabernilla at quitting time, may return to Las Cascadas on the Atlantic Division labor train and get back to Tabernilla next morning so as to take their trains out on time. The men working on the dumps along the relocation of the Panama railroad, north of Gamboa bridge, will be taken to Las Cascadas over the Panama railroad main line, via Matachin.

Tug M. E. Scully Renamed.

The tug of the Atlantic Division towing fleet, formerly known as the *M. E. Scully*, has been rechristened the *Reliance*. It was purchased over two years ago from the M. E. Scully Towing Company of New York City, and was rated at that time as one of the best boats in their service. It is the fastest and most powerful of all the tugs in the Canal service, hence its new name.

Transfer of Dredge No. 85.

Dredge *No. 85*, which has been undergoing repairs at the Cristobal marine shops, will be moved at the earliest opportune date to a new position up the Chagres River, near the West Diversion. The dredge was formerly stationed north of Gatun Dam, pumping material into the hydraulic fill, and will continue this work at its new location. The task of transferring the dredge involves considerable care, as it will have to make the sea voyage in the convoy of tugs from the entrance to the French Canal, to the mouth of the Chagres River. A close observation is being kept for auspicious weather conditions.

Improving Las Sabanas Road.

Improvements have been authorized for that part of the Sabanas road extending from the Caledonia bridge to the Zone boundary line, a distance of about 6,000 feet, all of which is within the limits of the Republic of Panama. The section of the road between the Caledonia bridge and the new orphan asylum is 4,000 feet long and 24 feet wide, while that between the asylum and the Zone boundary line is 2,000 feet long and 18 feet wide, equivalent to 14,667 square yards of surface.

During the year 1907, the Panama Government signified its desire to assume the repairs and maintenance of this part of the Sabanas road, but failed to take action in the matter. In a letter dated January 15, 1910, the Superintendent of Public Works called attention to the condition of the road and submitted an estimate of cost amounting to about $8,700. The repairs were subsequently authorized by the Chairman and Chief Engineer, and will be undertaken shortly by the municipal engineering forces of the Pacific Division. The expense will be paid from that part of the appropriation of $800,000 for sanitary improvements in the cities of Panama and Colon, to be applied to im-

NOTES OF PROGRESS.

(*Continued.*)

provements in the city of Panama. The estimate of cost, which provides for picking up the surface, preparing the roadbed, placing macadam, rolling, dressing and doing some ditching, is as follows:

Picking up the surface and preparing the roadbed—14,667 square yards, at 20 cents a square yard	$2,933.40
14,667 square yards of macadam, 3 inches thick (equivalent to 1,222 cubic yards in place, at $1.80), at 15 cents a square yard.	2,199.60
14,667 square yards screenings, 1½-inch thick (equivalent to 611 cubic yards, at $1.80), at 7½ cents a square yard	1,099.80
Rolling and dressing 14,667 square yards of surface at 10 cents a square yard	1,446.70
4,000 linear feet of ditching at 5 cents a linear foot	200.00
Total	7,899.50
10 per cent added	789.95
Grand total	$8,689.45

Repairs have also been authorized to the old Tomba Muerta road, leading from the Sabanas road to a point called Loserio, a distance of approximately 2,000 feet. Heretofore, owing to the bad condition of the Tomba Muerta road at certain times of the year, travel has been over private land, which practice the owner desired to have discontinued. A low place in the road leading off to the left through the Sabanas, a little west of the police station, will be filled in for a distance of about 100 feet and placed in proper condition.

Nombre de Dios Sand.

Fifty-five barge loads containing 32,794 cubic yards of sand were shipped from Nombre de Dios to Cristobal during March, constituting the largest output for any one month to date. Of this amount, the dredge *Nombre* excavated 23,639 cubic yards of material, netting 16,009 cubic yards of sand, and the remainder was taken out by locomotive crane. A total of 1,250 feet of new track was laid during the month, and 1.6 acres were cleared in the sand zone ahead of the dredge.

Concrete Laying at Gatun.

The west side wall of the upper locks at Gatun, exclusive of the monoliths for the lock gates, is about half finished; work is advancing on the monoliths of the center wall, and the foundation of the east side wall is about half finished. Concrete will be placed in the forms for the east side wall this week.

An average of 2,637 cubic yards of concrete a day was laid in the locks last week. A statement of the amounts placed during the six days of 12 hours each, follows:

	Cubic Yards.
April 4	2,678
April 5	2,784
April 6	2,055
April 7	2,652
April 8	2,811
April 9	2,846
Total	15,826

Of the total of 15,826, there were 996 cubic yards of large stones laid in mass.

The concrete layers worked seven days in the spillway of Gatun Dam, and placed 2,564 cubic yards of concrete, an average of 366 cubic yards a day.

Cristobal Dock Notes.

A building, formerly used as a storehouse in the rear of Dock 13, at Cristobal, has been moved on the dock, adjacent to the office of the Resident Engineer. It is now used for sheltering material and supplies delivered to Dock 13 for transshipment to Porto Bello and Nombre de Dios, and as a waiting room for passengers.

A small launch has recently been completed at the Cristobal marine shops, and has been named *Toro Point*. It is 28 feet long, and is equipped with a 7½-h. p. gasoline engine. Its machinery, with the exception of some new parts, came from an old launch known as the *San Blas*.

The suction dredge *Caribbean* has been in drydock for several weeks undergoing a general overhauling.

Concrete Work at Pedro Miguel.

The amount of concrete placed, and of large stones laid in mass, at the Pedro Miguel Locks, during six days of eight hours, for the week ending April 9, was as follows:

	CUBIC YARDS.	
	Rock.	Concrete
April 4	....	727½
April 5	....	783½
April 6	30	999
April 7	....	894½
April 8	....	1,006½
April 9	15	875
Total	45	5,286
Previously reported	448	84,808
Grand total	493	90,094

Cement in Bags and Barrels.

On the arrival of the steamer *Boltonhalt* on April 8, with 28,800 barrels of cement on board, there had been delivered on the Isthmus since July 1, 1909, 517,808 barrels of cement, under the contract for 4,500,000 barrels. Of this amount, 331,725 barrels were delivered in barrels, and 186,083 barrels, in bags of four to a barrel. This total is less than that published last week, in which an error appeared due to a confusion of the amounts sent in each class of container—bags with barrels. The shipments of cement from the States at present are at the rate of 4,800 barrels a day.

Steam Shovels on P. R. R. Relocation.

All of the steam shovels at work on the relocation of the Panama railroad are of the 70-ton class. The records made by them in the first three months of 1910, were as follows:

MONTH.	Output.	Av. No. steam shovels.	No. of working days.	OUTPUT PER SHOVEL.	
				Per Day.	Per Month.
January	206,334	8.24	25	1,002	25,040
February	214,411	7.91	23	1,179	27,106
March	234,571	7.31	26	1,234	32,089

The best records made in March were as follows:

SHOVEL NO.	CUBIC YARDS.		
	Earth.	Rock.	Total.
107	19,284	19,676	38,960
105	35,000	....	35,000
117	32,900	1,800	34,700

Operations at Porto Bello.

The production of crushed rock at Porto Bello for the month of March amounted to 69,565 cubic yards, exceeding the February output, which was the largest up to that time, by 8,429 cubic yards. The maximum day's production was 3,615 cubic yards, while the average hourly output for the 364 hours and 33 minutes the crushers were in operation, was 191 cubic yards, an increase of 10 per cent over February. Other operations at this point included preparations for installing the new gyratory rock crusher, now on order; strengthening the shipping bin foundations, and in procuring rock for cyclopean concrete. The extension to the wharf was recently completed.

The record at the crushers, by days, for the week ending April 7, including the time the crushers were in operation, follows:

	Hours worked.	Cubic Yards.
April 4	6:03	2,085
April 5	10:07	2,866
April 6	10:10	2,532
April 7	10:40	2,755
April 8	12:18	2,975
April 9	9:00	2,410
Total	58:18	15,623

Notice to Thirty-Second Degree Masons.

All thirty-second degree Masons who wish to participate in the observance of the Annual Feast Day will please communicate with the undersigned, advising number and location of Consistory.

CHARLES A. JONES, *32-Degree.*

LAS CASCADAS, C. Z., April 2, 1910.

Fire at Nombre de Dios.

Fire on Friday night, April 8, destroyed 73 of the 200 or more houses that comprise the native settlement of Nombre de Dios. It started about 7 o'clock in a dwelling located on the street nearest the beach, and was caused by a spark from an I. C. C. locomotive used in connection with the sand dredging operations at this point. The flames quickly communicated to the houses nearby and worked back from the beach to the center of the town, spreading out with their advance. The Commission employes stationed there hurried to the scene and assisted in fighting the fire until it was brought under control. The facilities were limited, but the water supply piped into the village from a small reservoir which the Americans built when sand operations were first begun, proved a valuable aid. The houses burned were of the type common to the interior towns and included a few stores. The church is located in another part of the village and was saved. The area of the burned district is estimated at about 2½ acres.

On the morning of the following day, a supply of tents and provisions were dispatched to Nombre de Dios from Cristobal for use of the inhabitants made homeless by the fire. Twenty-six tents were utilized and rations were issued for two days and a half.

A short time ago arrangements were concluded with the Panama Government, whereby about 100 houses near the beach at Nombre de Dios, formerly in the burned district, were to be torn down and reconstructed at a point further inland, to enable the sand excavation forces to obtain access to the deposit which underlies a part of the native village. The recent fire has advanced these plans, and it is now proposed to begin the work of removing about 25 more houses, and the reconstruction of these, together with the houses burned down, on a site located between the present southerly limits of the village, and the hills, without delay. The new buildings will correspond in size to the ones burned, or torn down, but will be constructed of galvanized iron, instead of native material.

REPAIRING STEAM SHOVELS.

System by Which No Time is Lost from Excavation.

One day last week, a large rock fell down the bank of Culebra Cut at Cucaracha, struck the frame of the main engine in a steam shovel working at the bottom of the slope and broke it. It would have been possible to haul this shovel to the repair shop at Empire and change the engine or mend it there, but experience in handling steam shovels in Culebra Cut had suggested a more economical plan. A simple system of field repairing has been evolved during the five years of steam shovel work, and now a shovel is taken to the shops only for extensive repairs or overhauling, all other repairs being made in the field and without interfering with the work of excavation.

A steam shovel is unlike a locomotive in that it seldom needs general repairs. One part will wear out, or become weak, while the others are strong enough for several months more of service. Each part as it weakens is replaced by a new part, and in this way the shovels may be practically rebuilt without going into the shops. Some shovels, now at work, have not been in the shops for over two years, and appear to be strong enough to stand the service for a year more, yet each of them has been extensively repaired if the sum of the changes made in the field is considered.

It is only in the case of an accident like that referred to that a shovel is obliged to shut down any length of time. A part may last a year without showing signs of weakness, and then give evidence of a break in the near future. Careful watch is kept and when a part becomes weak it is not allowed to break, but is replaced by a new member. In the case of a weakened boom the shovel will be turned over to the repair gang after the day's work is done. The boom will be loosened, the locomotive crane will lift it upon a flat car and hoist a new boom into its place. After the boom has been placed, there is much work to do before the shovel is ready to resume digging, but the men have thirteen hours in which to complete the job, and they never fail to turn a well braced shovel over to the excavation men in the morning.

Replacing a dipper stick, or handle, is one of the most frequent pieces of big repairing to be done, and this also is completed without loss of time. About half an hour before quitting time in the afternoon the crew of the shovel begins to get the old stick ready, to "unship" it, as the men in the Cut say. Half an hour after work is begun the following morning they finish their part of the job, and the new stick begins forcing the dipper or shovel into the rock and earth. During the night the repair gang has taken the old stick out and put a new one in. A swing circle, or an "A" frame, can be put in between sunset and sunrise without taking the shovel from the bench, or trench, in which it is at work.

The largest single field repair made is taking out a boiler and putting a new one in. Boilermakers, pipe-fitters, machinists, and laborers all work on this, and frequently call on the blacksmith for help. After it is loosened on its foundations and the connections between it and the engine are cut, the boiler is lifted by the crane upon a flat car, and a new boiler is taken from the car and set in place. It is bolted to the floor, connected with the engine, fire is made, and when the steam shovel crew returns to work at 7 o'clock in the morning it finds that "steam is up" and the shovel is ready to dig.

Such repairs as those mentioned cannot be made in an hour, or in two or three. They require time, skill and patience, and frequently cannot be completed in one operation. Culebra Cut is nine miles long, between 40 and 50 shovels are working there, and repairs of some nature are necessary to some of them every night. The night repair gang is made up of 31 boilermakers, 8 machinists, and a gang of laborers, and it is divided into three sections. The men in each section are distributed according to the demands of the work in that section. It frequently happens that several men will be at work on a shovel from 5 to 7 p. m., and on other shovels until midnight or later. Meanwhile, the crane will do its work at the first shovel, and after it has left, the men will return to complete the job. By systematizing the repair operations in this way it is possible to utilize most of the time of the men.

The night gang works all the way from 3 to 13 hours, and averages about seven hours a night. The work is done in the open, sometimes under a clear sky, often in drizzling or drenching rain, and again completely obscured by the heavy fog that fills the Cut at night during the rainy season. Boilers, booms, engines, and other parts are swung into place by artificial light, bolts are drawn tight and pipes connected while the workman's face almost touches the lantern held close to his work. Yet there is no difficulty in keeping men on the night gang, and it was recently ascertained that there is less illness among them than among similar workers in the Empire shops.

One of the evolutions in the field work is an itinerant machine shop, which is merely a car that can be hauled from place to place by a locomotive. In this car are mounted a forge, a drill, a shaper, and a lathe all driven by compressed air taken from the air main at whatever point the car is stationed. Pneumatic drills and hammers that can be handled by one man, the usual tools of the various trades represented in the repair gang, and a 30-ton locomotive crane compose the equipment with which the field repairs are made.

Although the amount of work done in the steam shovel shops at Empire is lessened by the extension of the field repairs, it is essential and amounts to much more than the field work. On an average 28 boilermakers, 10 blacksmiths, and 88 machinists are employed on the skilled work, and 202 negroes to do the unskilled work. Such extensive repairing as amounts to the rebuilding of a shovel is done there, and there, too, the spare parts that the night gang uses in the Cut are made ready.

It is a natural result of the magnitude of the work of cutting the Canal through the continental divide that there are more steam shovels on this one undertaking than on any other in the world. Shops in which no work except that on steam shovels is done are few, if indeed, that at Empire is not unique. The mechanics that come here from the States, no matter how skilful in their own lines, must be taught steam shovel repair work, and once they learn it they are not difficult to hold.

There are one hundred shovels in use, or ready for use in the Canal work. One shovel of the largest class, 90-ton, was wrecked in the accidental explosion of dynamite at Bas Obispo, on December 12, 1908, and it is believed that this is the only steam shovel that has ever been completely destroyed. During the freshets of last November, the pit in which excavation was in progress at Mindi, near the Atlantic entrance, was flooded and the shovels were inundated. Shovels had been inundated in Culebra Cut and not injured by the water, and it was not thought that the shovels at Mindi would be. Recently, however, as a precaution, an examination of water from the Mindi pit was made and it was found to contain enough salt to cause the metal to oxidize. On this account, the shovels may be taken out before the dredging it is proposed to do at this point has been completed and the pit itself unwatered.

The system of field repairing has developed further in Culebra Cut, because that is the place where most of the dry excavation is in progress. There, and in the Chagres section of the Central Division, two-thirds of the shovels are at work. The Pacific and Atlantic Divisions do such field repairing as is economical for them to carry on, but for the more important repairs, the shovels are sent to the shops at Empire, or in the case of those excavating at Porto Bello quarry, to the Porto Bello shop.

Ball at Hotel Tivoli on April 30.

To All Labor Organizations on the Isthmus: It has been arranged by the members of the Order of Railway Conductors, the Brotherhood of Locomotive Engineers, the Brotherhood of Railroad Trainmen, and the Brotherhood of Locomotive Firemen and Engineers represented on the Isthmus, to give an entertainment and ball at the Hotel Tivoli, on the night of April 30, for the benefit of the Home for the Aged and Disabled Railway Employes located at Highland Park, Ill.

At a meeting of the general committee held at Las Cascadas, Sunday, March 30, it was decided to extend an invitation to all labor organizations officially represented on the Isthmus to take part in this affair, in order to make it a success, both financially and socially.

Therefore, we, the committee appointed by the chairman, take this means of extending to you this invitation.

B. F. Metcalf, John Graham, M. H. Gilliam.
Bas Obispo, C. Z., April 4, 1910.

Isthmian Sunday School Association.

The quarterly meeting of the Isthmian Sunday School Association was held in the social hall at Corozal on Sunday afternoon, April 10. There were present delegates from Cristobal, Gatun, Tabernilla, Gorgona, Bas Obispo, Empire, Culebra, Paraiso, Pedro Miguel, and Panama. The reports of these delegates show that interest in the Sunday school work is well sustained and the membership and attendance good. The teachers' training classes, organized one year ago, are carrying on their work successfully. In those schools where training classes are not regularly organized, teachers' classes for the study of the Bible are doing equivalent work. Such classes are held either at the homes of members, or following the midweek prayer meeting.

STEAM SHOVEL RECORDS.

Performance of Central Division Shovels in March.

During the month of March, the total amount of material excavated in the Central Division was 1,994,574 cubic yards, of which 711,908 cubic yards were classified as earth and 1,282,666 cubic yards as rock. Of this quantity, 1,945,976 cubic yards were removed by steam shovels, 18,315 cubic yards by hand and scrapers, and 30,283 cubic yards by contract.

The high record for the month was made by shovel No. 213, working 26 days in the Culebra District, which excavated 70,290 cubic yards of soft rock. This is also the high record for a month since the work began. The second best record for the month was made by shovel No. 223, working 26 days in the Culebra District, which excavated 59,541 cubic yards of rock. This is also the second best record for a month since the work began.

The best record for a shovel in the 70-ton class was made by shovel No. 111, working in the Bas Obispo District, which excavated 39,128 cubic yards of earth in 24 working days.

Shovel No. 213, in the Culebra District, made the high record for one day by excavating 4,823 cubic yards, place measurement, of soft rock on March 22. This is the record for one day on the Isthmus. Shovel No. 122, working in the Bas Obispo District, excavated 1,780 cubic yards of earth on March 29, being the high record for one day for a 70-ton shovel during the month.

Except where noted, monthly records are computed by place measurement, while the daily records are based on car measurement. The best records for the month and for one day in each district are shown below.

Best Records for the Month.

TABERNILLA DISTRICT.

Shovel No.	Cubic Yards.			No. of days at work.
	Earth.	Rock.	Total.	
114	32,895	....	32,895	26
125	29,246	2,893	32,139	24
BAS OBISPO DISTRICT.				
201	12,084	34,860	46,944	26
111	35,215	3,913	39,128	24
EMPIRE DISTRICT.				
227	....	41,666	41,666	26
211	....	39,976	39,976	23
CULEBRA DISTRICT.				
213	....	70,290	70,290	26
223	....	59,541	59,541	26

BEST RECORDS FOR ONE DAY.

Shovel No.	Location.	Date.	Character of material excavated.	Cubic yds. excavated.
132	Tabernilla.......	Mar. 24.	Earth..........	1,650
132	Tabernilla.......	Mar. 23.	Earth..........	1,600
125	Tabernilla.......	Mar. 22.	Earth..........	1,544
201	Bas Obispo......	Mar. 21.	Rock...........	*4,748
201	Bas Obispo......	Mar. 23.	Rock...........	2,888
222	Bas Obispo......	Mar. 10.	Rock...........	2,189
122	Bas Obispo......	Mar. 29.	Earth..........	1,780
227	Empire..........	Mar. 18.	Rock...........	2,415
227	Empire..........	Mar. 12.	Rock...........	2,318
225	Empire..........	Mar. 23.	Rock...........	2,223
213	Culebra	Mar. 22.	Rock...........	*4,823
213	Culebra	Mar. 5.	Rock...........	4,009
204	Culebra	Mar. 17.	Rock...........	2,527

*Place measurement.

In March, 1910, the average number of steam shovels working in the Culebra construction district of the Central Division was 16.73. These shovels excavated during the 26 working days of the month, 741,504 cubic yards, place measurement, an average of 1,704.8 cubic yards per shovel per day of eight hours, and of 44,322 cubic yards per shovel for the month. The shovels were under steam 3,428 hours and were actually at work 2,265:05 hours. The average amount of excavation per shovel per hour while actually at work was therefore 289.1 cubic yards. This is the highest record for an equal number of shovels since operations were commenced by the United States.

Lidgerwood Unloaders in March.

A statement of Lidgerwood cars unloaded on the Central Division dumps during the month of March follows:

Location.	No. of unloaders.	No. of trains.	No. of cars.
Balboa....................	3	879	16,701
Miraflores..............	3	761	14,459
Gamboa....................	2	694	12,492
Tabernilla..............	3	1,047	18,846
Total	11	3,381	62,498

Wrecks at Pedro Miguel and Miraflores.

A train loaded with spoil from Culebra Cut and hauled by locomotive No. 292 ran into the rear end of another loaded train, engine No. 253, standing in the yard at Pedro Miguel, about 3 o'clock on the afternoon of April 7, and the tank of engine No. 292 was forced upon the car next to it. The brakeman on the car, J. Wood, check No. 73106, a West Indian negro, 21 years of age, was killed. The south bound main line track was blocked, but only the tank of the locomotive was damaged. South bound trains were sent around the wreck by way of one of the yard tracks.

Earlier in the same afternoon, one of the six cars in a spoil train running into Miraflores dump was derailed and the tracks to the dump were put out of service for several hours.

Obituary.

Richard Cottrell, a construction foreman in the Empire District of the Central Division, died at Ancon Hospital on April 7, after an illness of one week. He was 32 years of age and had been employed by the Commission since January 27, 1906. His home was in Sault Ste. Marie, Michigan, and his residence on the Isthmus, at Empire. His wife, living at Empire, survives him.

Frankling W. Hart, an engineer in the municipal section of the Pacific Division, died at Ancon Hospital on the morning of April 12, after an illness of about forty days. He was 37 years of age and had been on the Isthmus since July 10, 1906. Prior to his employment with the Commission he was a paymaster in the Navy, and has been engaged on municipal work in Washington, D. C. He was a resident of Washington, and his quarters on the Isthmus were at Ancon.

Fatal Accident in Gatun Spillway.

Three Spanish laborers were killed and one was injured in Gatun Spillway on Sunday morning, April 10, when they were caught under a bent of the bridge being built across the spillway channel. The breaking of an eyebolt in a derrick allowed the boom to swing against the trestle bent throwing it into the middle of gang No. 88, which was laying track under the bridge. McGill Gonzalez, check No. 99048, and Julio Colosano, check No. 6244, were killed instantly, and Caribo Gomez, check No. 94625, died in Colon Hospital a few hours later. José Bascolopez, check No. 10043, was injured.

Notice to Shovel and Dredge Men.

Local No. 19, I. B. of S. S. and D. M., will hold its monthly meeting on Sunday, April 17, at 2.30 p. m., in the I.C. C. lodge hall at Empire. Important business will be transacted, and all members are requested to attend.

WALTER P. TUDER,
Secretary and Treasurer.

Missing Man.

Information is desired regarding Vicente Ramirez, a native of Barcelona, who is said to have come to the Isthmus from Costa Rica with his wife and four children about four years ago. Address, office of the Chairman, Culebra, C. Z.

Red Cross.

The following circular is issued from the Washington headquarters of the American National Red Cross:

> In order to secure the best design possible for its 1910 Christmas "Seal," the Red Cross will hold a competition, open to the public, under the following rules:
>
> 1. Any person may submit not to exceed three designs.
> 2. The design must be shown in not more than three applied colors, preferably two.
> 3. The design shall contain the words "American Red Cross, 1910. Merry Christmas, Happy New Year," and the "Red Cross" emblem must show prominently.
> 4. The name and address of the artist must be written on the back of the design to facilitate its return after the close of the competition.
> 5. The competition will close at noon, May 15.
> 6. No designs will be returned unless specially requested.
> 7. The designs shall be addressed to Charles L. Magee, secretary, American Red Cross, care War Department, Washington, D. C.
>
> There will be three main awards consisting of the following cash prizes, in order of merit: $100, $50, $25. There will also be chosen out of the designs submitted ten others, to be retained by the Red Cross as its property, and for such there will be given a cash prize of $10 each.

Rainfall, April 1 to 9, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon..............................	1.17	5	1.55
Balboa..............................	.89	5	1.13
Miraflores..........................	.17	6	.36
Pedro Miguel........................	.09	5	.19
Rio Grande..........................	.37	1	.60
Central Section—			
Culebra.............................	.36	1	.56
Camacho	.73	1	1.27
Empire..............................	.91	6	1.25
Gamboa..............................	.28	6	.34
Alhajuela...........................	.10	5	.28
El Vigia............................	.18	1	.32
Gorgona.............................	1.33	7	1.77
San Pablo...........................	.28	7	.88
Tabernilla..........................	.42	7	.95
Bohio...............................	.94	7	1.97
Atlantic Section—			
Gatun...............................	.60	7	.95
Brazos Brook........................	.70	7	1.25
Cristobal	24	7	.66

The following vessels arrived at, or departed from, the port of Balboa during the week ending April 9:

Arrivals—April 2, *South Dakota* and *Tennessee* (U. S. warships) from the north; April 3, *Barracouta* from Central America; April 4, *Limari*, from south ports; April 5, *San José* from San Francisco; April 7, *Quito*, from intermediate ports.

Departures—April 3, *San Gabriel*, (Portuguese cruiser) for the north; April 5, *Aysen*, for south ports and *Oberon* (oil boat) for Port Harford; April 7, *Chiriqui* for intermediate ports, and *Arica*, for Guayaquil.

SOCIAL LIFE OF THE ZONE.

Women's Clubs and Other Features.

At the literary meeting of the Cristobal Woman's Club on Wednesday, April 6, the program consisted of an address by Mr. Frank A. Gause, Superintendent of the Canal Zone public schools. Mr. Gause spoke on the training of children and reviewed the work of the Zone schools. The opening of kindergartens in connection with the schools is assured, and other advances are under consideration. A concert was held at the Commission clubhouse on Tuesday evening, April 12, the proceeds of which will be devoted to the purchase of a piano for the Cristobal school. The home department held the last meeting for the year at the home of Mrs. I. P. Eppelsheimer on Monday afternoon, April 11. The topic was "Discoveries." Mrs. Brown will talk on vacation schools at the next general meeting on April 20. The annual meeting will be held on April 30 at 10 a. m.

An election of officers was held by the Paraiso Woman's Club on Wednesday, April 6, the following being chosen: Mrs. T. C. McLaughlin, president; Mrs. W. E. Lowe, vice-president; Mrs. W. E. Ellenwood, secretary and treasurer. There was a good attendance.

The Gorgona Woman's Club held a sale of art embroidery and needlework at the clubhouse on Wednesday afternoon, April 6. All the work offered was sold and orders were received for more than double the number of articles. At the close of the sale, refreshments were served and musical numbers consisting of vocal and piano solos were rendered by Mrs. H. O. Smith and Mrs. T. S. Booz.

The Midnight Sons, a minstrel organization composed of local talent at Corozal, gave their first entertainment in the recreation hall in that village on Friday evening, April 8. There was a large attendance. The program was as follows:

Opening chorus	The Company
"As Long as the World Rolls On"	Mr. Sales
"Cubanola Glide"	Mr. Conlan
"Sing Me to Sleep"	Mr. Wrightson
"Mormon Coon"	Mr. Millett
"If I Had a Thousand Lives"	Mr. Swarbrick
"Down Among the Sugar Cane"	Mr. Windsor
"I Am Dat Hen Roost Inspector Man"	Mr. McBride
Closing chorus	The Company
Equilibrist—Contortionist	"Bill" Kralce
Monologue (Dutch)	"Gus" Bennick
Saxaphone selections	"Bill" Wrightson
Comedy Skit	"Jimmy" Toner and Frank McBride
Monologue	"Dick" Windsor

Finale.

Dixie Quartet . Hinman, Conlan, Wrightson, Windsor

Mr. H. H. Hammer acted as interlocutor; Messrs. Chas. Conlan, Ed. Millett, Frank McBride and "Dick" Windsor were end men, while the following took part in the chorus: Messrs. H. D. Hinman, Jas. Toner, W. D. Wrightson, J. A. Sales, M. E. Beall, F. G. Bennick, W. D. Hull, C. H. R. Howe, W. Rowland, W. I. Vannah, J. L. Seward, W. E. Lofgren, F. Swarbrick, L. C. Vannah. The organization is arranging to repeat the entertainment at Paraiso and other points in the Zone.

Whist evenings have been instituted among a few of the residents of Las Cascadas, the players meeting at the various homes one evening in each week.

An entertainment consisting of a series of moving pictures was presented at Ancon hall on Saturday evening, April 2, under the auspices of the various societies and organizations of Ancon.

The woman's rest room at Cristobal has been converted into married quarters and the juvenile library belonging to the woman's club has been removed to the clubhouse. The exchange library from Gatun has been received, and these books are now in circulation.

Saturday evening, April 9, was Young Men's Christian Association night at the Italian opera in Panama. A special train from Colon brought a large number of association members and their families across the Isthmus. Faust was the opera sung.

Balboa Lodge, Knights of Pythias.

Balboa Lodge, No. 4, Knights of Pythias of Las Cascadas will commemorate their second anniversary on Saturday evening, April 16, in their castle hall at Las Cascadas. A cordial invitation is extended to all knights in good standing. A special train will leave Pedro Miguel at 7.15 p. m., and Gorgona at 7.30 p. m., both returning from Las Cascadas at 12.05 a. m.

CHAS. A. SHAW, K. of R. and S.
Las Cascadas, April 9, 1910.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

The Chess Club has arranged a four weeks schedule and the standing of the players up to date are as follows:

	Won.	Lost.
Wilson, Charles	3	0
Warner	2	0
Stearns	2	2
Vogel	1	0
Morgan	1	1
Putnam	1	2
Dubois	1	3
Hunter	0	4
Wilson	0	0

Several three-men teams are being organized for volley ball and will play a series of games, after which a team will be picked to play teams from other associations.

All men that are interested in bowling candle pins are requested to leave their names at the desk. If enough interest is shown a tournament will be arranged.

EMPIRE.

Empire is showing considerable interest in basketball. The squad is divided into two teams, the Tigers and Orioles. The Orioles doubled the Tigers up in a game last Wednesday night, April 7, by a score of 18 to 9. The boys expect to be in shape to meet all comers in about thirty days. There will be a game between Cristobal and a picked team from the Orioles and Tigers on the Empire floor Friday night of this week. The object of the game is to try out the local men.

A number of enthusiastic pool players have expressed a desire for a pool tournament. All interested are requested to inquire of Mr. V. Small for full particulars.

On the bowling alleys Wednesday night of last week, the Single Men took two out of three games of ten pins from the Married Men, the scores being:

	1st.	2d.	3d.
Single Men	438	448	439
Married Men	429	428	450

Another match is expected between these two aggregations in a few days. The Chicago ten pin bowling team of Empire has accepted a challenge from the Cristobal Indianapolis team. This match will be played next Saturday night at Cristobal. The local duck pin tournament has finished, with the following results:

	Played.	Won.	Lost.
Machine Shops	18	13	5
Central Division	18	10	8
Civil Administration	18	8	10
Examiner-Disbursing Offices	18	5	13

The line-up of the Machine Shop team was as follows: Lindgren, captain; Gustavson, Rodighiera, Lippert, and Wilson.

The regular gymnasium club will resume activities the first of May. All interested in physical training may attend Monday and Thursday nights during May, June and July.

GATUN.

The Gatun council, consisting of Col. William L. Sibert, chairman; J. W. Roland, W. N. Windes and F. G. Smith, held its first official meeting on Monday night of last week.

The gymnasium classes recently organized are well attended and promise to be very popular. Any member is eligible. A regular indoor baseball team has been organized composed of the following men: N. M. Gamble, p; C. Kenny, c; Summers, 1b; R. M. Gamble, 2b; Auchen, 3b; Lindsay, ss; Eggleston and Kuth, fielders.

The pool match last Saturday night, between Eggleston of Gatun, and Russell of Cristobal, resulted in a score of 100 to 87 in favor of Eggleston. The following men have entered their names for the progressive pool to be played on Thursday night of this week: Eggleston, McLain, Lowrie, Hughes, R. M. Gamble, Dalton, Byers and Smith.

On Wednesday night, April 6, the Cableway bowling team defeated the Angels by the following scores:

	1st.	2d.	3d.
Cableways	740	686	669
Angels	633	724	649

These two teams will meet again on Thursday night of this week.

On Friday night of this week, an entertainment and social will be held in the entertainment hall, to which all men of Gatun are invited. The evening will be concluded with a business meeting of the members. The chairmen of the committees will be announced and various clubs, such as camera, pressing, educational, chess and checker, and other organizations in connection with the clubhouse activities, will be formed.

The orchestra from the *Prinz Joachim* of the Hamburg-American Line gave a concert on Monday night, April 4, at the clubhouse.

A large number of new phonograph records were recently purchased and are proving popular.

CRISTOBAL.

Next Sunday, April 17, Mr. A. J. Goddard will speak at the men's meeting on "Houses With Their Fronts Off," the talk being on some of his personal experiences in the slums of London. All men are cordially invited to be present.

Cristobal defeated Gatun in a closely contested baseball game last Thursday night, the score being 18 to 17.

In the play-off game to decide the local sectional championship basketball team, the Dixies defeated New York by a score of 18 to 12.

The bowling alleys are again open and are in excellent condition.

Prof. Carr's lecture on Isthmian history this week took up the subject of the preliminary operations and diplomatic work necessary to acquire rights and privileges before actual work on the Canal was begun by the Americans.

The high school basketball team played an exhibition game Monday night against a picked team of the employed boys at the Y. M. C. A. gymnasium.

PORTO BELLO.

The clubhouse at Porto Bello was opened Thursday night, April 7. The program consisted of special music by Messrs. Ray, Kozier and Kramer; sleight-of-hand performance by Mr. Prados; club swinging by Mr. Kramer. Short talks were given by Capt. Stickel, Mr. Buckland, Mr. Gibbs, Mr. Goodman of Cristobal, and Mr. W. H. Geer, who has been appointed secretary of the Association at Porto Bello.

CAMP ELLIOTT.

Since the tents were struck on the parade ground, baseball has become a popular sport with the men of the camp. A team has been organized in each of the companies and an intercompany league has been formed. The following are the results of the games played during last week:

Tuesday—Company C 3; Company F 8.
Wednesday—Company D 9; Company E 14.
Thursday—Company B 8; Company D 10.
Friday—Company F 2; Company E 11.
Saturday—Company B 17; Company A 13.

Besides these regular games, competitive games are played daily between teams picked from various companies.

On Monday evening of last week a moving picture show was enjoyed by the officers and men of the camp.

On Sunday evening at 7 o'clock, a good crowd of men gathered for a song service. The secretary gave a short talk on "The Character of Christ."

OFFICIAL CIRCULARS.

Acting Superintendent of Public Works.

ANCON, C. Z., April 1, 1910.

CIRCULAR NO. 95:

Effective April 2, 1910, Mr. J. J. Reidy will act as Superintendent of Public Works, during the absence of Mr. George H. Ruggles, temporarily detailed to duty with the Panama Railroad Company.

GEO. W. GOETHALS, *Chairman*.

Acting Member, Board of Local Inspectors.

OFFICE OF THE CHAIRMAN,
CULEBRA, C. Z., April 9, 1910.

Mr. D. R. Aitken, Balboa, C. Z.:

Sir—Under authority conferred upon me by Executive Order of the President, No. 1131, dated October 2, 1909, you are hereby appointed a member of the Board of Local Inspectors, to serve during the absence on leave of Mr. James Macfarlane.

GEO. W. GOETHALS, *Chairman*.

Water Tenders and Oilers.

CULEBRA, C. Z., April 7, 1910.

CIRCULAR NO. 299-B:

The following designations and rates of pay are authorized in addition to those published in Circular No. 299:

Designation.	*Unit.*	*Rate of pay.*
Water tenders	Mo.	$60.00
Oilers	Mo.	50.00

Oilers at $50 may be employed only on marine equipment, and Water Tenders at $60 only on pipe line dredges.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Silver Employes' Service Slip.

CULEBRA, C. Z., April 5, 1910.

CIRCULAR NO. 229 G:

Attention is invited to the following extracts from Circular No. 229-Revised, "Approved Ratings and Rates of Pay—Silver Roll;"

"Upon first appointment, or upon reappointment after a break in service, unless specially authorized to the contrary, employes shall be entered upon the rolls at the lowest rate of pay authorized for the class of work which they are to perform, provided that an employe may be regularly transferred from one department or division to another without reduction; and provided further, that an employe absent for not more than thirty days, with the prior consent of competent authority in his department or division, may be reinstated at his former rate of pay. This does not apply to European contract laborers in possession of checks of the series Nos. 1 to 19,999, who may be reemployed at the contract rate—20 cents an hour—provided they show certificate of discharge from hospital of recent date, or certificate stating discharged due to reduction of force, or regular assignment or transfer by check number from the office of the Chief Quartermaster, or from another department or division.

"Employes shall not be promoted from a lower to a higher rate of pay until they have completed at least three months' service at the lower rate. Promotions shall always be to the next higher grade."

In order to provide a uniform method for the regular transfer of a silver employe from one department or division to another, without reduction of pay, a "Silver Employe's Service Slip," Form 262-C. E., has been provided. A sample is attached and requisition should be made on the Depot Quartermaster for a supply and be put into use as early as practicable.

This service slip should be used in the case of all employes on the silver rolls (except 20-cent contract laborers) who receive a rate of pay *in excess of 10 cents an hour*, and should *not* be used for any employes receiving 10 cents an hour or less.

Timekeepers in charge of silver rolls will see that three or more of these slips (depending on the number of men on the roll) are attached to the inside of the back cover of each odd and even day time book carrying any silver employes rated higher than 10 cents an hour.

When an employe is transferred to any other gang, division or department, or is discharged on account of a reduction of force, or discharged for no fault of his own, he must be furnished with one of these service slips, properly filled out and signed by the foreman, and the foreman must have the employe sign his name on the back of this form as a means of future identification. In the event the employe cannot write, his name will be signed and witnessed by the foreman, the employe making "his mark" in the usual way. When he reports at his next place of employment the slip must be presented to and taken up by the employing foreman, who will require the employe to sign his name as above, noting whether it agrees with signature placed thereon when he left his former employment and attach it to the time book in which his name is entered, as authority for rating him higher than the minimum rate. The timekeeper in charge of the roll will enter his name on the time roll at the lowest rate of pay for the class of work performed, unless one of these service slips is attached to cover such employe. The slip will be attached to and remain with the time roll so that it may be accessible at all times for verification by inspectors of the rate of pay.

This service slip must not be given to an employe who quits voluntarily or is discharged for cause, such as insubordination, violation of the rules, etc.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Transportation for Employes' Families.

CULEBRA, C. Z., April 4, 1910.

HEADS OF DEPARTMENTS AND DIVISIONS:

In every instance where transportation is requested for an employe's family, involving the question of the retention or release of Commission family quarters, it must be specifically stated whether or not return transportation is desired within the time limit for the retention of such quarters. It should also be stated at what point on the Isthmus quarters are occupied.

By direction of the Chairman.

C. A. MCILVAINE,
Acting Assistant to the Chairman.

Designation of Concrete Finisher Established.

CULEBRA, C. Z., April 8, 1910.

HEADS OF DEPARTMENTS AND DIVISIONS:

It has been brought to my attention that certain West Indians, employed to haul sand and stone and other material for concrete, have been taken up on the rolls as "masons," at 16 and 20 cents an hour. These men are not entitled to a higher rating than that of laborer.

To prevent similar abuses in the future, it is proposed to abolish the designation "mason" and establish that of "concrete finisher," with pay at the rate of 16 and 20 cents an hour. The number of "concrete finishers" in each department and division will be limited to actual requirements,

In this connection you are directed to report with as little delay as possible how many "concrete finishers" at each rate you will need for work corresponding literally with the designation.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Error in Pay Roll Tables.

EMPIRE, C. Z., April 8, 1910.

HEADS OF DEPARTMENTS AND DIVISIONS:

It has just developed that the Commission table for computing pay rolls, hourly men, 13-cent rate, is in error in the amount covered by 277 hours, which reads at present $35.01 and should read $36.01.

Kindly see that all such tables in use in your department or division are accordingly corrected.

EDWARD J. WILLIAMS, *Disbursing Officer.*

Band Concert.

The Isthmian Canal Commission Band will give a concert at Culebra, C. Z., on Sunday, April, 17, 1910, at 5.45 p. m. The program follows:

1 March—*Hampton Roads*..........Alexander
2 Selection—*The Huguenots*..........Meyerbeer
3 Intermezzo—*Margarita*..........Mills
4 Reminiscenses of Scotland by (request)..Godfrey
Introducing—"Scots Wha Hae," "Auld Robin Gray," "Bonnie Laddie," "The Campbells Are Coming," "The White Cockade," "John Anderson, My Jo," "Logie O'Buchan," "Green Grow the Rushes O'," "The Braes of Auchterarder," "Annie Laurie," "Within a Mile of Edinboro," "Bonnet Blue" (with variations for different instruments), "Blue Bells of Scotland," "Tullochgorum," "Auld Lang Syne," and Finale.
5 Waltz—*Love Sparks*..........Holzman
6 Overture—*Comique*..........Keler Bela
7 Potpourri—*Kerry Mills' Latest Songs*......Schulz
Introducing—"Pass Dat Possum," "When a Pal of Mine Steals a Girl of Mine," "The Longest Way 'Round Is the Sweetest Way Home," "Lonesome," "Rag Time Dance," "Don't Be an Old Maid, Molly," "A Georgia Barn Dance," "We're Almost Home," and "Sun Bird."
8 Fantasia—*My Old Kentucky Home*........Dalbey
(With variations for different instruments.)
9 Medley March—*Mollie Lee*..........Morse

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Gatun, C. Z., on Sunday, April 24, at 2 p. m.

A cubic yard of concrete in one block, exactly similar in quality to that used in the construction of the locks at Pedro Miguel, was sent to Empire a few days ago by the Pacific Division engineers to be weighed on Central Division scales. The weight was 3,960 pounds, or a trifle above the standard for a cubic yard.

BASEBALL.

ISTHMIAN LEAGUE.

RESULTS OF GAMES, APRIL 10.

Empire, 10; Gorgona, 7.
Marines, 4; Ancon, 1.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*P.*	*W.*	*L.*	*Pc.*
Empire	19	14	5	.737	Ancon	18	7	11	.384
Gorgona	20	13	7	.650	Marines	21	5	16	.238

SCHEDULE FOR APRIL 17.

Ancon at Empire.
Marines at Gorgona.

Empire.	AB.	H.	PO.	A.	E.	Gorgona.	AB.	H.	PO.	A.	E.
Dixon, ss	5	3	5	5	0	Clements, cf	2	1	4	1	0
Bryan, 3b	5	1	2	0	1	J. Ridge, 2b	4	0	3	2	1
Markley, c	5	2	9	3	0	Barney, c	5	2	5	2	1
Bell, 1b	4	1	8	0	1	Wright, 1b	4	2	10	1	1
Christop'er, 2b	5	1	1	1	1	Emery, 3b	5	2	2	6	1
Fluharty, lf	5	2	0	0	0	A. Ridge, ss	5	0	1	2	2
Murphy, cf	4	2	2	0	1	Kinney, rf	3	1	0	0	0
Toone, rf	2	1	0	0	1	Culbertson lf	3	1	2	0	1
Marshall, p	4	1	0	0	0	Massen, p	4	0	0	3	0
Totals	39	14	27	9	5	Totals	35	9	27	17	7

Empire	2	3	2	1	1	1	0	0	0	—10
Gorgona	0	0	0	1	1	1	2	0	2	— 7

Runs—Empire: Dixon, Bryan, Markley (2), Bell, Fluharty (2), Murphy (2), Marshall; Gorgona: Clements (2), J. Ridge, Barney (2), Wright, A. Ridge. Runs earned—Empire, 5; Gorgona, 3. Two base hits—Bryan, Clements, Murphy, Marshall. Home runs—Bell, Barney. Sacrifice hit—Toone. Sacrifice flies—Toone, Wright. Stolen bases—Clements, J. Ridge, Culbertson, Dixon, Markley. Bases on balls—Off Marshall, 5; off Massen, 2. Struck out—By Marshall, 8; by Massen, 3 Hit by pitcher—By Marshall—Clements. Left on bases—Empire, 6; Gorgona, 8. Wild pitch—Marshall. Passed balls—Markley, 2. Umpire—Foster. Time of game—2. Scorer—D. G. Hayes.

Marines.	AB.	H.	PO.	A.	E.	Ancon.	AB.	H.	PO.	A.	E.
Lubomski, lf	5	2	1	0	0	Pearman, 3b	5	1	5	2	1
Scarff, 2b	3	2	1	1	0	Drennan, rf	4	3	3	0	0
McCabe, 3b	4	1	1	0	0	Tinsley, ss	3	0	2	4	0
Litz, 1b	4	2	8	1	1	Smith, c	5	2	6	1	1
F. Snyder, cf	4	1	4	0	0	Hunter, cf	4	0	1	1	0
Harley, ss	4	1	1	3	0	A. Snyder, 2b	3	1	1	1	0
Todd, rf	2	0	1	0	0	Keller, lf	4	1	2	0	0
Apple, rf	2	0	0	0	1	Nygren, 1b	4	2	7	1	0
Amey, c	3	0	5	1	0	Wrightson, p	4	2	0	2	0
Munsen, p	1	0	0	0	0						
Nuss, p	2	1	0	1	1	Totals	36	12	27	12	2
Conway, c	1	0	5	1	0						
Totals	35	10	27	8	3						

Marines	0	0	0	0	0	4	0	0	0	—4
Ancon	0	0	0	1	0	0	0	0	0	—1

Runs—Marines: Lubomski, Scarff, McCabe, Nuss. Ancon: Smith. Runs earned—Marines, 3; Ancon, 1. Two base hits—Harley, Pearman, Smith, Nygren. Sacrifice hits—Tinsley, 2. Stolen bases—Amey, Nuss, A. Snyder, Drennan. Bases on balls—Off Munsen, 1; off Wrightson, 1. Struck out—By Muusen, 3; by Nuss, 4; by Wrightson, 5. Hit by pitcher—By Nuss—A. Snyder; by Wrightson—Scarff. Left on bases—Marines, 6; Ancon, 11. Umpire—Hill. Time of game—1.50. Scorer—J. K. Munroe.

ATLANTIC LEAGUE.

RESULT OF GAME, APRIL 10.

Panama Railroad, 6; Civil Administration, 1.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*P.*	*W.*	*L.*	*Pc.*
Com-Sub	10	9	1	.900	Civ. Adm	10	4	6	.400
P. R. R	10	5	5	.500	Colon	8	1	7	.125

P. R. R.-Colon game of April 3 thrown out because of the ineligibility of Case, who pitched for P. R. R.

SCHEDULE FOR APRIL 17.

Commissary-Subsistence vs. Colon.

P. R. R.	AB.	H.	PO.	A.	E.	C. A.	AB.	H.	PO.	A.	E.
Dougherty, 2b	5	1	5	1	0	Morrell, lf	4	0	3	0	0
Heberling, c	4	0	11	4	1	Farrar, cf	3	2	3	0	0
Wheeler, ss	4	1	0	3	1	Edwards, 1b	4	0	10	0	0
Lewis, p	4	2	1	4	1	Fleichman, 3b	3	0	1	0	0
Bryan, lf	4	1	0	0	0	Hope, c	4	0	7	2	1
Osborne, cf	4	0	2	0	0	Major, 2b	4	1	0	2	2
Dockery, 3b	4	2	0	0	0	McKeever, ss	3	0	1	1	0
Davis, rf	4	0	1	0	0	Blaine, rf	3	0	2	1	1
Cushing, 1b	4	1	7	0	0	Russell, p	3	0	0	1	0
Totals	37	8	27	12	3	Totals	31	3	27	7	4

Panama Railroad	0	0	0	0	0	0	2	3	1	—6
Civil Administration	0	1	0	0	0	0	0	0	0	—1

Runs—P. R. R.: Dongherty, Wheeler, Lewis (2), Bryan, Osborne; C. A.: Hope. Runs earned—P. R. R., 4. Two base hits—Major, Dockery. Home runs—Lewis (2), Bryan. First base on errors—P. R. R., 3; C. A., 3. Sacrifice fly—Russell. Stolen bases—Farrar, Edwards. Bases on balls—Off Lewis, 1. Passed ball—Hope. Struck out—By Russell, 5; by Lewis, 11. Hit by pitcher—Farrar, McKeever. Left on bases—P. R. R., 4; C. A., 6. Double play—Blaine to Edwards. Umpire—Rohr. Time of game—1.40. Scorer—Rennard.

H. M. S. *Scylla*, Commander Bertram Phesiger, a British protected cruiser of the second class, arrived at Colon on Wednesday, April 13. The vessel has been stationed in Nicaraguan waters for several months past.

COMMISSARY DEPARTMENT.

A butcher shop has been opened in connection with the Las Cascadas Commissary, where customers can be supplied with meat direct, instead of ordering through the cold storage.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning April 9.

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (5 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (5 to 8 pounds)	per lb	24
Chops	per lb	26
Cutlets	per lb	25
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	†22
Beef—Suet	per lb	2
Soup	per lb	5
Stew	per lb	9
Corned	per lb.,	12, 14, 16
Chuck roast	per lb	13
Pot roast	per lb	15
Rib-roast, second cut (not under 3½ pounds)	per lb	18
Rib-roast, first cut (not under 3 pounds)	per lb	20
Sirloin roast	per lb	21
Rump roast	per lb	21
Porterhouse roast	per lb	21
Steak, Chuck	per lb	14
Round	per lb	15
Rib	per lb	20
Sirloin	per lb	21
Porterhouse	per lb	21
Rump	per lb	21
Tenderloin	per lb	24

MISCELLANEOUS

Livers—Beef	per lb	8
Calf	each	60
Half	each	30
Sausage—Pork	per lb	17
Bologna	per lb	14
Frankfurter	per lb	14
Leberwurst	per lb	14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	25
Oysters, in 1-quart kegs	keg	55
Oysters, in ½-gallon kegs	keg	90
Eggs, fresh	dozen	30

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each	70, 82, 93, 1.04, 1.15
Ducks, large	each	1.50
medium	each	1.30
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese	each	2.50
Pheasants	each	70, 1.00
Partridges	each	50
Grouse	each	85

CURED AND PICKLED MEATS.

Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Sugar cured	per lb	23½
Sugar-cured, sliced	per lb	†27
Half, for boiling	per lb	24½
Boiled	per lb	26
Hocks	per lb	‡8
Bacon—Breakfast, whole piece	per lb	†28
Breakfast, sliced	per lb	†29
Beef, salt, family	per lb	9
Pork, salt, family	per lb	15
Ox tongues	each	80
Pigs' feet	per lb	8
tongues	per lb	16
Mutton, mess	per lb	7

DAIRY PRODUCTS.

Butter—Creamery special	per lb	40
Cheese—Roquefort	per lb.	38
Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	26
Edam	each	1.00
Neufchatel	each	6
Gouda	per lb	34
Milk, Briarcliff	bottle	**25

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	8
Lettuce	per hd	† 12, 16, 20
Cucumbers	per lb	*12
Potatoes, white	per lb	3
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	3½
Tomatoes	per lb	8
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	3
Cabbage	per lb	3
Rhubarb	per lb	10
Lemons	dozen	24
Apples	per lb	6
Tangerines	each	2
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4
Pineapples	each	18

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Misdirected Letters.

Division of Posts, Customs and Revenues,
Ancon, C. Z., April 13, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Baltz, Mrs. Thomas F
Barnett, Mrs. David
Camps, John
Canneron, William
Carter, Charles
Clinton, G. V.
Croft, L. H.
Davidson, Edgar
Dennis, Rev. T. W.
DeSabla, M. J.
Emmons, Mr. and Mrs. Nye
Goodhart, Chester M.
Hadley, Tillman
Herrington, S. E.
Hobly, Paul
Hollowell, Cooper
Jones, Millard W.
Kountz W. R.
Lauritzer, William C.
Major, Mrs. John I.
Marshall, Benjamin
O'Connor, John
Parker, R. E.
Rowe, O. J.
Russell, Major Robert
Skinner, Miss Irene
Snopp, B. M.
Sonville, William
Stewart, Foster
Stoly, Frederick
Swigart, Dr. R. E.
Waterman, Edward T.
Whitbeck, W. S.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending April 20, 1910 (75th meridian time):

Date.	High.	Low.	High.	Low.	High.
	A. M.	A. M	A. M.	P. M.	P. M.
April 14	....	12.47	6.52	1.08	7.10
April 15	....	1.36	7.42	2.00	8.02
April 16	....	2.30	8.39	3.00	9.02
April 17	....	3.33	9.47	4.10	10.13
April 18	....	4.45	11.08	5.30	11.43
			P. M.		
April 19	....	5.58	12.30	6.45	....
April 20	1.03	7.07	1.34	7.46	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Supplies for Canal Work.

The following steamers, with supplies for the Isthmian Canal Commission, arrived at the ports of Cristobal and Colon, during the week ending April 9, 1910:

Colon, April 6, from New York, with 95 packages medical supplies for Sanitary Department; 625 pieces Y. P. lumber for drydock store; 10 tons castings, 51 tons steel bars and 17 tons crane machinery for Pacific Division; 22 cases fuses for Atlantic Division; 14 cases fuses and 98 cases electric caps for Central Division; 450 bars iron, 33 bundles scythes, 52 bundles stove pipe, 50 cases alcohol, 450 kegs wire nails, 100 bundles scoops and 475 tons steel and structural material for stock; and a miscellaneous cargo consisting of 11,380 packages, weighing 865 tons.

Abangarez, April 7, from New Orleans, with 3,070 cross-ties, 28 tons wire rope and 67 tons hay for stock; 25 Holstein cows, for Sanitary Department; 50 creosoted piles for Empire store; 13,794 feet Y. P. lumber for drydock store; 88 pieces timber for Pacific Division; 2,343 feet Y. P. lumber for Gorgona car repairs.

Boltonhall, April 8, from New York, with 19,800 barrels cement for Atlantic Division; 36,000 bags cement for Pacific Division.

Zacapa, April 8, from New York, with 200 cases sapolio and 29 tons fire clay for stock.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, April 9, 1910.

Day and Date.	Stations.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft..	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, April 3....	127.3	94.2	47.5	5.0	2.3	....
Monday, April 4...	126.9	94.0	47.4	4.4	2.0	....
Tuesday, April 5...	126.9	93.8	47.2	3.9	1.6	....
Wed'esday, April 6	135.9	99.9	54.8	13.6	6.0	....
Thursday, April 7..	128.8	95.5	50.2	13.6	7.0	....
Friday, April 8....	127.8	94.7	48.2	6.4	3.9	....
Saturday, April 9..	127.3	94.2	47.7	5.5	2.6	....

Proposals for Sale of Bed Sheets and Student Lamps.

Office of the Depot Quartermaster,
Mount Hope, C. Z., April 5, 1910.

Bed sheets and student lamps will be sold at the office of the Depot Quartermaster, Mount Hope, Canal Zone, bids for which will be received until 2 p. m., April 19, 1910, from persons desiring to purchase all, or any of the following:

5,000 bed sheets, unbleached, 72" x 90".
700 bed sheets, bleached, 72" x 90".
1,000 student lamps.

Bids must be plainly marked, "Proposals for Purchase of Bed Sheets and Student Lamps, to be opened April 19, 1910," and addressed to the Depot Quartermaster, Mount Hope, Canal Zone.

At time and place above mentioned all bids will be opened in the presence of attending bidders, the Government reserving the right to reject any or all bids.

These bed sheets and student lamps may be seen and examined on any week day between the hours of 7 a. m. to 11 a. m., and 1 p. m. to 5 p. m., upon application to this office.

C. Nixon,
Depot Quartermaster.

Sale of Isthmian Canal Buildings.

Office of Chief Quartermaster,
Culebra, C. Z., April 8, 1910.

Sealed proposals for the purchase of buildings Nos. 41, 42, 58, 59, 63, 72 and 132, located at Caballo Viejo, and buildings Nos. 183, 184, 186, 187 and 188, at Juan Grande will be received here until 2 p. m., April 25, 1910, and then opened. Bids to be accompanied by a guarantee in amount $50 U. S. currency. Buildings to be removed within 30 days. Envelopes containing proposals must be indorsed "Proposals for purchase of public buildings at Caballo Viejo and Juan Grande" and addressed

C. A. Devol, *Chief Quartermaster.*

STATEMENT OF CLASSIFIED EXPENDITURES TO FEBRUARY 28, 1910.

	Department of Civil Administration.	Department of Sanitation.	Department of Construction and Engineering.	General Items.	Total.
Total to June 30, 1909	$3,427,090.29	$9,673,539.28	$69,622,561.42	$78,022,606.10	$160,745,797.09
1909—					
July	64,209.14	140,580.90	1,593,250.14	274,418.57	2,072,458.75
August	49,771.51	150,123.15	1,709,471.48	242,189.42	2,151,555.56
September	57,868.94	153,406.14	1,911,252.84	217,335.42	2,339,873.34
October	61,740.56	159,391.49	2,022,010.34	431,288.66	2,674,431.05
November	65,088.00	156,646.64	1,853,495.96	229,497.97	2,304,728.57
December	59,076.20	150,401.41	2,102,637.61	336,668.91	2,648,784.13
1910—					
January	82,756.89	163,379.71	2,673,797.41	412,915.15	3,332,849.16
February	59,251.83	136,941.46	2,126,328.26	*195,770.76	2,126,750.79
Total	$3,926,853.36	$10,884,410.18	$85,614,815.46	$79,971,149.44	$180,397,228.44

*Credit account of loan repaid the Canal Commission by the Panama Railroad Company.

CANAL DIRECTORY.

ISTHMIAN CANAL COMMISSION.

Col. Geo. W. Goethals, U. S. A., Chairman, Culebra.
Lieut.-Col. H. F. Hodges, U. S. A., Culebra.
Lieut.-Col. D. D. Gaillard, U. S. A., Empire.
Lieut.-Col. Wm. L. Sibert, U. S. A., Gatun.
Civil Engineer H. H. Rousseau, U. S. N., Culebra.
Col. W. C. Gorgas, U. S. A., Ancon.
Mr. Maurice H. Thatcher, Ancon.
Mr. Joseph Bucklin Bishop,
Secretary, Ancon.

DEPARTMENTS.

Construction and Engineering.

Headquarters, Culebra.

Col. Geo. W. Goethals, Chairman and Chief Engineer.
William Howard May, Secretary to the Chairman.
M. B. DePutron, Assistant to the Chairman.
C. A. McIlvaine, Chief Clerk.
John K. Baxter, Assistant Chief Clerk.
H. S. Farish, Surveying Officer.
Caleb M. Saville, Assistant Engineer.

Lieut.-Col. H. F. Hodges, Assistant Chief Engineer.
C. O. Carlson, Secretary.
Edward Schildhauer, Electrical and Mechanical Engineer.
Henry Goldmark, L. D. Cornish, H. F. Tucker, T. B. Mönniche, Edward C. Sherman, Designing Engineers.

Civil Engineer H. H. Rousseau, Assistant to the Chief Engineer.
J. C. Parsons, Secretary.
A. B. Nichols, Office Engineer.
James G Craig, Senior Traveling Engineer.
Arthur C. Stone, Traveling Engineer.

Central Division.

Headquarters, Empire.

Lieut.-Col. D. D. Gaillard, Division Engineer.
L. K. Rourke, Assistant Division Engineer.
A. E. Bronk, Chief Clerk.
A. S. Zinn, Resident Engineer.
Mark W. Tenny, Assistant Engineer.
W. L. Thompson, Assistant Engineer.
George A. Greenslade, Supt. Construction.
J. W. Sneed, Superintendent Construction.
D. E. Crowley, Superintendent Construction.
Joseph Little, Superintendent Construction.
W. T. Reynolds, Superintendent Construction.
A. Sessions, Superintendent Transportation.
William H. Bates, Supt Steam Shovel Repairs.
E. E. Rigney, Superintendent Air and Water.
Dan E. Wright, Supt. Municipal Work.

Atlantic Division.

Headquarters, Gatun.

Lieut.-Col. Wm. L. Sibert, Division Engineer.
Maj. Chester Harding, U. S. A., Assistant Division Engineer.
R. M. Sands, Chief Clerk.
Maj. Edgar Jadwin, U. S. A., Resident Engineer.
Maj. J. P. Jervey, U. S. A., Resident Engineer.
Maj. G. M. Hoffman, U. S. A., Assistant Engineer.
Capt. Horton W. Stickle, U. S. A., Assistant Engineer.
Geo. M. Wells, Office Engineer.

Pacific Division.

Headquarters, Corozal.

S. B. Williamson, Division Engineer.
John M. G. Watt, Assistant Division Engineer.
J. C. Keller, Chief Clerk.
W. G. Comber, Resident Engineer.
W. B. Corse, Resident Engineer.
H. O. Cole, Assistant Engineer.
Frank Cotton, Assistant Engineer.
James Macfarlane, Supt. of Dredging.

Gorgona Shops.

Headquarters, Gorgona.

A. L. Robinson, Electrical Engineer and Master Mechanic.
William Taylor, Chief Clerk.
J. H. Flynn, Mechanical Engineer.
W. O. Johnson, Superintendent of Engine Houses and Air Compressors.

Subsistence.

Headquarters, Cristobal.

Maj. Eugene T. Wilson, U. S. A., Subsistence Officer.
Lieut. Frank O. Whitlock, U. S. A., Assistant Subsistence Officer.
W. F Shipley, Chief Clerk.
John Burke, Manager of Commissaries,

Quartermaster's.

Headquarters, Culebra.

Lieut.-Col. C. A. Devol, U. S. A., Chief Quartermaster.
Lieut. R. E. Wood, U. S. A., Assistant Chief Quartermaster.
Lieut. Walter D. Smith, U. S. A., Constructing Quartermaster.
C. H. Mann, Chief Clerk.
W. H. Macfarlane, Inspector of Construction and Repairs.
C. C. McColley, Inspector.
Capt. C. Nixon, U. S. A., Depot Quartermaster, Mount Hope.
C. L. Parker, Assistant Depot Quartermaster, Mount Hope.
Chas. R Bryon, Storekeeper, Gatun.
C. L. Prentiss, Storekeeper, Gorgona.
F. W. Miracle, Storekeeper, Empire.
Robert Wuerz, Storekeeper, Miraflores.
R. K. Morris, Storekeeper, Balboa.

District Quartermasters.

B. C. Poole, Ancon and Balboa.
A. R. Bennett, Corozal.
J. T. Smith, Pedro Miguel and Paraiso.
H. F. Sedwick, Culebra.
Walter G. Ross, Empire.
J. M. King, Las Cascadas.
C. E. Heisey, Bas Obispo.
R. C. Shady, Gorgona.
J. H. Humphrey, San Pablo, Tabernilla and Bohio.
R. M. Gamble, Gatun.
Roy R. Watson, Cristobal.
M. D. Smith, Porto Bello.

Civil Administration.

Headquarters, Ancon.

Col. Geo. W. Goethals, Acting Head of the Department.
G. A. Ninas, Chief Clerk.

Tom M. Cooke, Chief, Division of Posts, Customs and Revenues, Ancon.
Arthur McGown, Deputy Collector, Ancon.
Jno. L. Storla, Deputy Collector, Cristobal.
Frank Feuille, Counsel and Chief Attorney, Ancon.
J. P. Fyffe, Chief of Police, Ancon.
Lieut. Chas. W. Barber, U. S. A., Assistant Chief of Police, Ancon.
D. E. McDonald, Chief Clerk.
C. E. Weidman, Fire Chief, Cristobal.
Geo. H. Ruggles, Supt of Public Works, Ancon.
C. R. Sargent, Chief Clerk.
J. J. Reidy, Asst. Supt. Public Works, Cristobal.
F. A. Gause, Superintendent of Schools, Ancon.
Edgar P. Beck, Treasurer of Canal Zone, Empire
W. G. Comber, Chairman; James Macfarlane, Louis Untermann, Board of Local Inspectors.

Canal Zone Judiciary.

Headquarters, Ancon.

Supreme Court—H. A. Gudger, Chief Justice.
Walter Emery, Clerk, Ancon.
Lorin C. Collins, Associate Justice, Cristobal.
Wesley M. Owen, Associate Justice, Empire.
Circuit Court, First Circuit—H. A. Gudger, Judge, Ancon.
Walter Emery, Clerk.
Circuit Court, Second Circuit—Wesley M. Owen, Judge, Empire.
Elbert M. Goolsby, Clerk.
Circuit Court, Third Circuit—Lorin C. Collins, Judge, Cristobal.
Nelson R. Johnson, Clerk.
M. C. Kerdell, Senior District Judge, Cristobal.
S. E. Blackburn, District Judge, Ancon.
Edgar S. Garrison, District Judge, Empire.
J. B. March, District Judge, Gorgona.
Thomas E. Brown, Jr., District Judge, Cristobal.

Sanitation.

Headquarters, Ancon.

Col. W. C. Gorgas, Chief Sanitary Officer.
Lieut.-Col. John L. Phillips, U. S. A., Assistant Chief Sanitary Officer.
Maj. Robert E. Noble U. S. A., General Inspector.
Harry E. Bovay, Chief Clerk.

Lieut.-Col. Charles F. Mason, U. S. A., Superintendent Ancon Hospital, Ancon.
Surgeon Wm. H. Bell, U. S. N., Superintendent Colon Hospital, Cristobal.
Surgeon C. Perry, P. H. and M. H. S., Chief Quarantine Officer, Ancon, and Health Officer, Panama.
Surgeon Claude C. Pierce, P. H. and M. H. S. Quarantine Officer, Colon.
Dr. Fleetwood Gruver, P. H. and M. H. S., Quarantine Officer, Panama.
Joseph A. LePrince, Chief Sanitary Inspector, Ancon.
Dr. M. E. Connor, Health Officer, Colon.

Disbursements.

Headquarters, Empire.

Edward J. Williams, Disbursing Officer.
Wm. M. Wood, Assistant Disbursing Officer.

Examination of Accounts.

Headquarters, Empire.

W. W. Warwick, Examiner of Accounts.
T. L. Clear, Assistant Examiner of Accounts.

Purchasing Department.

Headquarters, Washington, D C.

Capt. F. C. Boggs, U. S. A., General Purchasing Officer.
C. E. Dole, Chief Clerk.

Capt. Courtland Nixon, Purchasing Agent on the Isthmus.
Maj. Wendell L. Simpson, U. S. A., Purchasing Agent, 24 State Street, New York City.
Lieut-Col. Geo. B. Davis, U. S. A., Assistant Purchasing Agent, Custom House, New Orleans, La.

Panama Railroad Company.

Headquarters, Colon.
(General offices, 24 State Street, New York.)

J. A. Smith, General Superintendent, Colon.
Lieut. Frederick Mears, U. S. A., Chief Engineer.
A. K. Stone, Master of Transportation.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Advance	P. R. R.	Wednesday	Apr. 6
Panama	P. R. R.	Tuesday	Apr. 12
Allianca	P. R. R.	Monday	Apr. 18
Colon	P. R. R.	Monday	Apr. 25
Advance	P. R. R.	Saturday	Apr. 30
Panama	P. R. R.	Friday	May 6
Allianca	P. R. R.	Thursday	May 12
Colon	P. R. R.	Wednesday	May 18
Advance	P. R. R.	Tuesday	May 24
Panama	P. R. R.	Tuesday	May 31
Allianca	P. R. R.	Monday	June 6
Colon	P. R. R.	Monday	June 13
Advance	P. R. R.	Saturday	June 18
Panama	P. R. R.	Friday	June 24

CRISTOBAL TO NEW YORK.

Advance	P. R. R.	Monday	Apr. 18
Panama	P. R. R.	Sunday	Apr. 24
Allianca	P. R. R.	Saturday	Apr 30
Colon	P. R. R.	Friday	May 6
Advance	P. R. R.	Thursday	May 12
Panama	P. R. R.	Wednesday	May 18
Allianca	P. R. R.	Wednesday	May 25
Colon	P. R. R.	Tuesday	May 31
Advance	P. R. R.	Monday	June 6
Panama	P. R. R.	Sunday	June 12
Allianca	P. R. R.	Saturday	June 18
Colon	P. R. R.	Saturday	June 25

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

NEW YORK TO COLON.

Almirante	U. F. C.	Thursday	Apr. 7
Prinz Aug. Wilhelm	H.-A	Saturday	Apr. 9
Santa Marta	U. F. C.	Thursday	Apr. 14
Clyde	R.-M.	Saturday	Apr. 16
Metapan	U. F. C.	Thursday	Apr. 21
Prinz Joachim	H.-A	Saturday	Apr. 23
Zacapa	U. F. C.	Thursday	Apr. 28
Atrato	R.-M.	Saturday	Apr. 30
Almirante	U. F. C.	Thursday	May 5
Prinz Aug. Wilhelm	H.-A	Saturday	May 7

COLON TO NEW YORK.

Zacapa	U. F. C.	Friday	Apr. 15
Thames	R.-M.	Wednesday	Apr. 20
Almirante	U. F. C.	Friday	Apr. 22
Prinz Aug. Wilhelm	H.-A	Tuesday	Apr. 26
Santa Marta	U. F. C.	Friday	Apr. 29
Metapan	U. F. C.	Friday	May 6
Prinz Joachim	H.-A	Tuesday	May 10

NEW ORLEANS TO COLON.

Abangarez	U.F.C.	Saturday	Apr. 2
Atenas	U.F.C.	Saturday	Apr. 9
Turrialba	U.F.C.	Saturday	Apr. 16

COLON TO NEW ORLEANS.

Turrialba	U F.C.	Thursday	Apr. 7
Abangarez	U.F.C.	Thursday	Apr. 14
Atenas	U.F.C.	Thursday	Apr. 21
Turrialba	U.F.C.	Thursday	Apr. 28

COLON TO BARBADOS, CALLING AT TRINIDAD.

Clyde	R.-M.	Tuesday	Apr. 26

The next sailing of the Leyland Line will be as follows: *Mercian* for Tampa, via Kingston, Ja., on or about April 19.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, APRIL 20, 1910. No. 34.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Ship Basin at Pedro Miguel Locks.

A basin in which ships may wait for lockage through the Pedro Miguel Locks will be excavated north of the locks, which is in the southernmost part of Culebra Cut. This basin will extend from the north wing walls of the locks, north into Culebra Cut, a distance of about 3,000 feet, and will be 600 feet wide, 300 feet each side of the center line, for 1,000 feet of this distance, and then will taper gradually on the east side for a distance of 1,680 feet, where it will coincide with the present east line of the Cut, 150 east of the center line. On the west side, the basin will gradually decrease in width from a point 1,000 feet north of the wing wall for a distance of 640 feet, to a point 225 feet west of the center line. From that point, the west line of the basin will run northwardly parallel to the center line, a distance of about 1,300 feet, where it will intersect the present west line of the Cut 150 feet west of the center line.

The total amount of material that must be taken out of the basin is 1,496,429 cubic yards, of which 932,572 cubic yards represent the amount necessary for widening the channel beyond 300 feet.

The basin will extend east of the center line of the Canal so far that about 800 feet of the present main line of the Panama railroad will be included in the excavation. It is possible, however, to excavate 359,849 cubic yards of the total without disturbing either the Panama railroad tracks, or the sand and rock trestles of the Pedro Miguel concrete plant layout.

Cocoli Lake Water.

It has become apparent that the cost of clearing Cocoli Lake watershed of human habitations would greatly exceed the original estimates, and it has therefore been decided to permit all settlers now established on the watershed to remain there, but to issue no additional leases for this territory. The water from Cocoli Lake will be used only until the Canal is completed, and during that period only is case the water in Rio Grande reservoir is not sufficient to supply the territory south of Culebra. Before being forced into the main by the pumps at Miraflores, the water will be passed through filters, thus rendering it entirely safe for domestic use.

Secretary Dickinson's Visit Postponed.

A cable dispatch from Washington, under date of April 18, to the Chairman and Chief Engineer of the Isthmian Canal Commission, announced that the proposed visit of the Secretary of War to the Isthmus has been postponed indefinitely.

Excavation Record in Culebra District.

On April 11 there was established in the Culebra Construction District of the Central Division, the highest record for a single day's work in any construction district of this division. Eighteen shovels, working eight hours per day, excavated 29,201 cubic yards of rock and earth, an average of 1,622.3 cubic yards per shovel, per day. The shovels were under steam 144 hours and were actually at work 91 hours and 20 minutes. They loaded 1,616 Lidgerwood, Western and Oliver dump cars with the material excavated.

Record of Costa Rica Earthquake.

A seismic disturbance, probably from the northwest, was recorded on the seismographs at the Ancon meteorological station between 1.45 and 2.15 o'clock on the morning of April 13. The maximum vibration given by the small machine was seven millimeters, and the maximum by the large machine was 17 millimeters. The maximum motion was at 1.47 a. m. This disturbance was reported on April 14, and is the only one recorded by the seismographs that could be identified with the earthquake reported as having caused considerable damage in Costa Rica.

Rebuilding Nombre de Dios.

Plans and estimates have been made at the office of the Constructing Quartermaster for the rebuilding of the houses destroyed by fire at Nombre de Dios on April 8. Seventy-two buildings, consisting of 66 dwellings and six stores, were burned, and one building, occupied by a saloon, was damaged. The sites showing the exact dimensions of the original buildings were staked off shortly after the fire, and the plans for reconstructing them in the new part of the town will follow these lines closely. Some of the houses will consist of a living room 12 by 16 feet, and a kitchen 7 by 10 feet; others will consist of a living room only. The estimated cost of reconstructing the majority of the houses, labor only, ranges from $40 to $70 each, and the largest outlay on any one building, in in this respect, will not exceed $340. The houses will all have galvanized iron roofs and sides built on a light frame work, and each will be provided with a board floor.

The new part of the village is situated about 450 yards from the beach, and the sites for buildings to be reconstructed have been staked off. Several other buildings not included in the burned district, but situated nearby, will be moved to the new location, in order to clear the ground for sand dredging operations. A channel has been opened into the deposit through the mouth of the Nombre de Dios River, which empties into the bay west of the village, and the dredge is now working in this section. Its operations will be extended ultimately to cover nearly all of the burned area, and when the dredging is concluded, the village will be provided with an excellent harbor, practically landlocked.

Economy in Use of Oil on P. R. R.

A comparison of the amounts of oil and grease issued to Panama railroad locomotives for the months of January, February and March, 1909 and 1910, shows the following saving or excess:

	GALLONS.		
	1909.	1910.	Saving.
Oil:			
Valve	1,558	778	780
Engine	1,598	1,200	398
Car	436	18	418
Signal	484	65	419
Headlight	459	349	110
Machine	2	*1	....
Coal	193	143	50
Lard	*1	†2	....

*One month. †Two months.

	POUNDS.		
	1909.	1910.	Saving.
Tallow	*4	†14	....
Cup grease	301	330	‡29
Cotton waste	2,927	1,475	1,452
Woolen waste	242	279	‡37
White waste	....	42	‡42

*One month. †Two months. ‡Excess in 1910 over 1909.

Ancon Hospital Farm Operations.

Twenty-five Holstein cows were received on the *Abangarez* from New Orleans on April 7, for the Ancon Hospital farm. The original requisition called for 25 cows of this breed, but word was returned that the market price of this grade was $105 per head, which was regarded as too high a price to pay. Subsequently, it was ascertained that other good milch cows would cost practically the same figure, so the original order was allowed to stand. The animals were somewhat lean on their arrival, but otherwise were in good condition. The herd now numbers 109 head, including 16 calves born on the farm.

A consignment of 110 fowls—100 hens and 10 cocks—of the Rhode Island Red breed, was received on March 28, as an addition to the poultry farm. Three have since died, but the remainder are getting along finely and showing good results as egg producers. Of the original shipment of 205 Brown Leghorns, 10 have died. Two hundred and thirty Plymouth Rock hens and cocks are

NOTES OF PROGRESS.

(Continued.)

due to arrive shortly, which will increase the total number to about 550.

Sixty-four dozen and seven eggs were produced from January 17, the date the first lot of hens began laying, to the end of the month, at an average cost of 39⅓ cents per dozen. In February, the output was increased to 218 dozen, and the average cost reduced to 16 cents per dozen. March operations netted 232 dozen and nine eggs, of which 222 dozen were turned over to the hospital kitchen. The average cost of production in March was 17½ cents per dozen. A 100-egg incubator was recently installed, and the first hatching is due this week. The hen yard is being enlarged by the fencing in of an additional enclosure.

Concretions, Not Fossils, From Culebra Cut.

A letter has been received from the Smithsonian Institution in Washington with regard to the supposed fossils from Culebra Cut, which were mentioned in THE CANAL RECORD of January 5, 1910. The letter follows:

Washington, U. S. A., March 2, 1910.

Dear Sir: The specimens of supposed fossils from the eastern bank of the Canal, which were found by Mr. Joseph David and transmitted to the Smithsonian Institution, as announced in your letter of January 7, were duly received and recorded as an accession from the Isthmian Canal Commission. Upon examination in the Department of Geology they proved not to be fossils, however, but concretions of an interesting nature, and are very acceptable additions to the collections in the National Museum.

Assuring you of my appreciation of your courtesy in connection with the transmittal of the specimens, I am.

Very respectfully yours,
CHARLES D. WALCOTT,
Secretary.

COL. GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission,
Culebra, C. Z.

Work in Pacific Division Lock Section.

Concrete laying at the Pedro Miguel Locks established a new high record for this point during the week ending April 16, when 5,648 cubic yards were mixed and placed. The bulk of this concrete was produced by the berm crane mixers, the 2-yard stationary mixers being idle the entire week. The best day's work was on Wednesday, April 13, when 1,152 cubic yards, including 60 cubic yards of large stones laid in mass, were placed. The record of concrete placed and of large stones laid in mass, by days of eight hours each, for the six working days of the week ending April 16 follows:

	CUBIC YARDS.	
	Rock.	Concrete
April 11	60	985
April 12	6	885½
April 13	60	1,092
April 14	....	925
April 15	....	929
April 16	....	831½
Total	126	5,648
Previously reported	493	90,094
Grand total	619	95.742

Both cranes in the west chamber are now engaged in placing concrete and five trains are employed in transporting the buckets. Work is advancing on the west side wall and the middle wall. The side wall culvert has been extended longitudinally for a distance of about 150 feet, and one section of the wall above the culvert has been built up to a height of 44 feet. Forms for the middle wall culvert are under erection in place. A considerable section of the south guide wall has been completed to the requisite height, and will be finished its entire length by the end of the month. The first of the two cranes in the east chamber will be completed and ready for trial operation this week, while the structural work on the second crane is more than 50 per cent finished. The second berm crane only lacks adjustment of its electrical equipment to be ready for trial. At the present rate of progress all of the cranes at this lock—four chamber cranes and two berm cranes—will be in service about June 1. At Miraflores Locks, the structural iron work on the first of the four berm cranes to be erected there has been started.

Concrete Laying at Gatun.

The record of concrete laid in the locks at Gatun during the six days of 12 hours each in the week ending April 16, follows:

	Cubic Yards.
April 11	2,257
April 12	2,549
April 13	2,223
April 14	2,181
April 15	2,204
April 16	2,421½
Total	13,835½
Previously reported	307,840½
Grand total	321,676

There were laid in the spillway of Gatun Dam, 2,475 cubic yards of concrete during the week.

Rock Crushed at Porto Bello.

The record of rock crushed at Porto Bello, by days, during the week ending April 16, with the time the crushers were in operation, was a follows:

	Hours worked.	Cubic Yards.
April 11	13:50	2,995
April 12	12:00	3,015
April 13	12:30	2,985
April 14	6:08	1,740
April 15	12:00	3,200
April 16	10:00	3,330
Total	66:28	17,265

Building Improvements.

The work of converting house No. 28 at Balboa into married quarters has been completed. The rearrangement provides for ten sets of family quarters, each consisting of a living room, dining room, two bedrooms, kitchen and bathroom. In two of the sets, the living and dining rooms are somewhat larger than in the others. The quarters have independent stairways, and the porch space is divided off by partitions in the usual manner. The building, originally constructed as bachelor quarters for gold employes, was built out of California redwood, and when the alterations were made, was found to be in an exceptionally good state of preservation. The cost of the conversion amounted to $7,115, averaging about $711.50 to each set of quarters as compared with an average of about $1,250 a set, in the case of new type-14 family quarters.

The shelf space in the Quartermaster's storehouse at Balboa has been considerably enlarged by enclosing the north end, which was left open when the building was first erected for the storing of heavy spare parts. More room was needed for miscellaneous supplies and this has been provided for by the change. An unloading platform has been built on the east side of the storehouse, and a new track laid to it through the yards. An oil house, and a shed for the storing of iron pipe and bar iron, have recently been erected at this point. The shed is fitted with pipe racks, and one end is enclosed for the safe keeping of copper pipe and bar copper.

A labor barrack, formerly at Tabernilla, has been moved to Gatun and set up near building No. 84. The barrack next to E. L. Mess No. 51 will be vacated and converted into an additional mess building. About 1,500 men are now regularly fed at this mess, which is one of the largest in the service.

Lines have been run for the extension of the concrete drain along the old Balboa road for a distance of 2,000 feet, connecting the section which now ends a little west of the commissary, with the section which begins near the police station in Balboa.

Eleven buildings constituting an abandoned labor barrack near Tabernilla, known as Chagrecito Camp, were sold a few days ago to James A. Milligan for $155.50. The buildings were put up in French times, and were in a bad state of repair.

Applications for Family Quarters.

On March 31 there were 77 applications for family quarters on the No. 1 list, and 469 on the No. 2 list. Of these 546 applicants, 112 are occupying regular or nonhousekeeping quarters at stations other than those at which their applications are filed. Eliminating Gatun, there are only 25 applications on the No. 1 list, and 10 of these applicants are already occupying family quarters at other stations. There are 52 applicants on the No. 1 list at Gatun, 24 of whom will be provided for in April, or early in May, by the completion of six type-14 four-family quarters, now under construction at that station. The list, by towns, follows:

	No. 1 List.	No. 2 List.
Ancon	6 (4)	17
Ancon Hospital	2	2
Balboa	2	48
Bas Obispo	2	9
Corozal	....	21
Cristobal	5	141 (1)
Culebra	....	....
Empire	....	3
Gatun	52 (23)	106 (45)
Gorgona	3 (1)	73 (15)
Las Cascadas	....	11 (2)
Miraflores	....	1
Paraiso	....	26 (9)
Pedro Miguel	5 (5)	7 (7)
Tabernilla	....	4
Total	77 (33)	469 (79)
March 1	84	454
February 1	83	426

The figures in parentheses show the number of applicants already occupying regular or nonhousekeeping family quarters at stations, other than those at which applications are filed.

A 6-inch water main will be laid from the end of the present main in the Guachapali district of Panama city to the new orphan asylum erected by the Government on the Sabanas road. The main will be about 2,300 feet long, and the cost of the work will be defrayed out of the $800,000 appropriated to enable the Commission to continue sanitary improvements in Panama and Colon.

COOLING OF CONCRETE.

Resistance Thermometers to be Embedded in Massive Concrete of Gatun Locks.

Six resistance thermometers will be embedded in the walls of the locks at Gatun, in order to determine the degree of heat attained at various stages of the hardening of the concrete. The concrete is made of one part slow setting Portland cement, three parts sand, and six parts 3-inch rock. On account of the time that elapses between the mixing of the concrete and its delivery into the forms, the mixture is made about the consistency of thin plaster. After it is placed in some parts of the wall, large rock is added, forming a cyclopean concrete. From the time concrete begins to crystallize until it reaches its final set the increase in temperature is rapid. From the setting point the increase is slow, but usually continues during the whole of the hardening process, which is indefinitely long, probably lasting for several years. It is to gather data with regard to this hardening, and the heat produced by the chemical changes that accompany it, that the thermometers will be embedded in the concrete.

The thermometer consists of three parts—(1) a resistance bulb; (2) wire connecting the bulb with an indicating instrument; (3) an indicating instrument. The resistance bulb is an iron cup in which there is inserted a specially prepared metal, the resistance of which to the flow of electric current varies directly as the temperature. This bulb is embedded in the concrete at any point desired, and two copper wires connect it with the indicating instrument. The wires are encased in lead armor to make them waterproof, and their resistance is determined at the time of installation and the corrections remain practically constant. Any number of bulbs may be connected with a single indicating instrument, but the indicator to be installed at Gatun is capable of registering for eight bulbs, although for the time being only six will be used. The indicating instrument and the switches connected with it are self-contained and mounted on a marble slab, the whole being easily portable. By closing the circuit of any thermometer, which is done by means of a push button switch, the resistance of that thermometer is measured, and the instrument records it in terms of temperature.

The thermometer is operated by one small storage battery giving approximately two volts at the terminals. The frequency with which the temperature will be taken, will be determined by the rate at which it changes from time to time. The results will be plotted with time as the abscissa, and temperature as the ordinate, and in this way a complete graphical record of the hardening and cooling of the concrete will be kept.

Panama Railroad Company Election.

At the annual election of the Panama Railroad Company held in New York on April 4, the vacancy on the board of directors, caused by the resignation of the Hon. Jo C. S. Blackburn, was filled by the election of Lieut.-Col. C. A. Devol, Chief Quartermaster of the Isthmian Canal Commission. The officers were reelected.

Marines on the Isthmus.

The marines of the expeditionary brigade, who have been encamped on the Isthmus, sailed for the United States on April 15, 250 for San Francisco, and 700 for Atlantic coast ports. The batallion now on the Isthmus is stationed at Camp Elliott and consists of 448 enlisted men and 16 officers under the command of Major Smedley D. Butler, U. S. M. C.

Suicide on the Steamer Ancon.

E. W. Brand, a second cabin passenger on the *Ancon*, jumped overboard on the night of April 13, when the ship was two days out from New York. Efforts to recover the body were unsuccessful.

LABOR FORCE AND QUARTERS IN MARCH.

The combined Canal and Panama railroad force on March 30 was 38,676, of which 30,837 were employes of the Isthmian Canal Commission. This is the largest labor force since the beginning of work on the Canal. There was no recruiting in March, because the supply of laborers on the Isthmus was sufficient. The independent immigration of European laborers continued, the number employed on March 23 being 5,278, as compared with 4,586 on February 23, an increase of 692.

The report of the Chief Quartermaster for March shows that the number of family quarters occupied by "gold" employes was 1,676, which is 4 less than in February, and the occupants numbered 5,160, an increase of 34. Of this number, 1,779 were women, and 1,662, children. Bachelor quarters occupied by "gold" employes numbered 1,996 and the occupants numbered 3,841, of whom 141 were women. The family quarters occupied by European laborers numbered 307, and the occupants, 900; bachelor quarters 121, and the number of occupants, 5,736. The family quarters occupied by West Indians numbered 1,035, and the occupants, 3,371; bachelor quarters, 289, and the number of occupants, 5,305.

The force actually at work on March 30, was as follows:

DEPARTMENT.	Monthly.	Artisans.					European Laborers.		West Indian Laborers.					Total Silver.	Total Gold.	Grand Total.
		44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 cents.			
Const'ct'n and Eng'r'ng.	4,130	18	41	317	747	2,939	3,575	1,526	113	1,092	3,308	3,657	314	21,777	3,403	25,180
Civil Administration....	182	..	..	3	3	18	......	......	...	.....	......	4	....	210	343	553
Sanitation..............	631	..	..	4	12	7	......	......	1	1	2	273	11	942	361	1,303
Quartermaster's.........	1,091	5	2	55	165	213	135	27	33	.....	37	936	....	2,699	246	2,945
Subsistence..............	639	..	..	1	1	......	......	......	...	.....	......	......	....	641	66	707
Disbursements..........	8	..	..	....	.....	......	......	......	...	.....	......	......	....	8	28	36
Examinat'n of Accounts.	7	..	..	....	.....	......	......	......	...	.....	......	......	....	7	106	113
Totals...............	6,688	23	43	380	928	3,177	3,710	1,553	147	1,093	3,347	4,870	325	26,284	4,553	30,837

Panama railroad force, 3,880; Panama railroad relocation force, 2,998; Panama railroad commissary force, 961. Total, 7,839.

EXECUTIVE ORDER.

Collections for Liquor Licenses.

The provisions of the second paragraph of the Executive Order of March 13, 1907, which fix the duties of the district tax collectors of the Canal Zone, shall not require the collection by them of moneys to be paid for liquor licenses under the regulation respecting the sale of intoxicating liquors in the Canal Zone, approved by the Isthmian Canal Commission April 27, 1907; but such moneys shall be collected by the Collector of Revenues or his deputy or assistant.

Wm H. Taft.

The White House,
April 2, 1910.
[No. 1184.]

PERSONAL.

Lieut. R. E. Wood returned from his leave of absence in the States on the *Advance*, arriving at Cristobal on April 13.

Mr. Sylvester Deming, Treasurer of the Panama Railroad Company, with headquarters in New York, arrived on the *Panama* on Monday, April 18, and will be on the Isthmus for a few days. He is accompanied by his daughter.

Missing Man.

Information is requested with regard to the whereabouts of Horace V. Quigley, who has been missing from his home since March 8, 1910. He is 17½ years old, 5 feet 9 inches tall, and weighs 130 pounds. He has a knowledge of civil engineering and may apply for a position as rodman. Any information concerning him may be sent to The Canal Record, Ancon, C. Z.

Killed in Fall From Train.

Henry Cheeseman, chief stoker on the British cruiser *Scylla*, fell from passenger train No. 8 on the Panama railroad near Gatun about 7.40 o'clock Saturday night, while returning with some companions from a trip to Panama receiving injuries from which he died shortly after his removal to Colon Hospital. The funeral was held with military honors at Mount Hope cemetery on Sunday forenoon.

Steam Shovel and Dredgemen.

Panama Local, No. 5, Associated Union of Steam Shovel and Dredgemen will hold its regular meeting on April 24, at 2.30 p. m., in the Commission lodge hall at Culebra. All members are requested to attend.

William P. Wheeler,
Secretary and Treasurer.

Culebra, C. Z., April 14, 1910.

Canal Medal List Corrections.

The following corrections and changes have been made in the Canal medal and bar lists:

MEDAL LIST.

Bethauser, Charles W., June 13, 1907, to April 30, 1907.
Engberson, Leo B., to Engersen, Leo B., May 30, 1907.
Grundy, Clarence N., to Gundy, Clarence N., Sept. 24, 1907.
Johnson, Oscar C., July 24, 1907 (name to be added.)
Kennedy, James, Sept. 13, 1907 (name to be omitted.)
McNeill, James M., Aug. 6, 1907, to July 26, 1907.
Schildhauer, Edward, Sept. 2, 1907 (name to be added.)
Schwab, William A., Jr., Nov. 1, 1907, to Jan. 5, 1907.
Silvey, Edward, to Silvey, Ed, July 9, 1907.
Seaman, Albert, to Seaman, A., Mar. 14, 1907.
Weston, Alfred F., to Weston, Albert F., Jan. 1, 1907.
Yocum, Thomas B., to Yocum, B. Thomas, June 3, 1907.

BAR LIST.

Bliss, Gerald de Leo, to Bliss, Gerald DeLeo, Dec. 16, 1907.
Crabtree, George H., Nov. 8, 1907 to Nov. 7, 1907.
Lupfer, Cambridge A., to Lupfer, Cambridge M., Aug. 9, 1907.
Rigney, Edward P. to Rigney, Edward E., Feb. 11, 1907
Zuberbier, Herman, June 21, 1907, change from Panama railroad medal list to bar list.

COLON BREAKWATERS.

Plans Approved for Buildings on Toro Point—Description of Site—Operations Commenced.

Plans prepared in the office of the Constructing Quartermaster for the buildings to be erected on Toro Point in connection with the construction of the Colon breakwaters have been approved by the Chairman and Chief Engineer, and the work of clearing the site and getting material on the ground will begin at once. Two type-18 bachelor quarters, three type-14 four-family houses, and a type-27 house will be erected by contract and bids for this purpose will be opened on May 2.

Toro Point is the extremity of a peninsula, which extends into the Caribbean Sea and forms the westerly shore line of Limon Bay. With the completion of the Canal this peninsula will be virtually an island separated from the mainland by the Canal as far as Gatun on one side, and by the Chagres River, which will receive the surplus water of Lake Gatun after passing over the spillway of Gatun Dam, on the other. Toro Point light is 2⅞ miles from Colon light, and about four miles from the office of the Resident Engineer on Dock 13. The point extends into the sea in an easterly direction, and is surrounded by dangerous reefs and shoals, vessels approaching Colon Harbor from the west being compelled to make a wide detour to avoid them.

Just south of the Toro Point lighthouse is a small harbor known as Shelter Cove, which will be utilized by the engineering forces as a landing place for material and supplies. The entrance to this harbor is narrow and reefs and shoals encroach upon it from both sides, but the channel will be enlarged and both harbor and channel dredged to a depth of 16 feet, which will admit the tugs of the Atlantic Division towing fleet, with one or two exceptions. Dredging operations in this locality were begun a few days ago.

At present, there is a temporary landing on the south side of the cove used for unloading supplies. A permanent dock, 150 feet long and 36 feet wide, is being built on the opposite side of the harbor. The dock will be arranged so that a stiff-legged derrick at the east end can unload supplies from a barge alongside directly into cars on the dock, or can place coal in a storage bin on the rear side.

The building plans contemplate a settlement similar to the smaller Zone towns. There will be a laborers' camp of seven buildings, with detached bath houses in the rear, a mess for colored and European laborers, both under one roof, with a kitchen where the food will be prepared. There will be a hotel for the American employes, three four-family quarters, two bachelor quarters, and a residence for the superintendent. In addition to these buildings, there will be a small commissary, engine house and machine shop, both under one roof, and a Quartermaster's storehouse and office, also under one roof.

The site of the breakwater settlement is very similar to that at Cristobal. The surface of the ground is but two or three feet above mean sea level, and the beach soil, for the most part, is coral sand mixed with vegetable mould, overlying coral; in fact, the entire point back to the base of the hills appears to be of coral formation. Along the shore of the point for a considerable distance extends a grove of cocoanut trees, and these will be left undisturbed as far as possible. The American quarters will face Colon Harbor and will have as open an exposure as the houses on Roosevelt Avenue, Cristobal.

The laborers' barrack will be located at the extreme southern end of the settlement. Next will come the type-14 houses, and after them, further in toward the cove, the type-27 house and the bachelor quarters. There will be a slight departure from the standard plan in connection with the construction of the married quarters. Instead of outside stairways ascending to the second story at the ends, there will be a hallway in the middle, with an entrance door in front. The hallway will be separated from the quarters downstairs by partitions. The hotel will be reconstructed from a European laborers' mess hall and a West Indian laborers' kitchen, and will be located not far from the bachelor quarters on the side nearest the cove. The dining room will be 60 feet 8 inches by 30 feet in size, and the kitchen in the rear, 28 by 36 feet, with no upper story. The commissary, to be located near the present temporary landing, will be 30 feet by 60 feet in size, equipped with an ice box similar to the one installed in the Corozal commissary. Fronting directly on the cove will be the mess hall. In providing a barrack for the laborers, it is proposed to move some of the unused buildings at Camp Bierd to the Point.

The storehouse, office, engine house and machine shop will be situated on the north side of the cove, convenient to the railroad tracks. The engine house and machine shop will occupy a building 46 by 230 feet, the largest part of the space being allotted to the engine house, which will be capable of housing about 20 locomotives, although it is estimated that 14 will be sufficient for the breakwater work. The shop will be equipped with machines and tools for performing all ordinary repairs and assembling plant. Facing the tracks to the left of the machine shop, and separated from it by an open space of 100 feet, will be the storehouse and office, occupying a building 50 by 100 feet.

Back of the sand beach is a swamp of narrow extent, which practically crosses the peninsula from north to south. On the farther side of this swamp are two hills from which the rock will be obtained to supply the core for the breakwaters. To reach these hills tracks will be laid, the distance from the end of the Point to the nearest hill being about 2,500 feet, and to the furthest hill, about 3,000 feet. At the base of the nearest hill, the track will divide passing to either side of it, permitting the opening of quarries in two localities. A spur will extend from the main track to the second hill. The hills are low, and borings indicate that the rock mass is comparatively solid, outcropping plentifully on the surface, and but little stripping will have to be done. The rock is classified as limestone and will be blasted and then excavated by steam shovels. The hills were originally covered by a forest growth, and about seven acres of trees and brush have been cleared away. Drilling operations will begin shortly.

The first appropriation for breakwater construction is not available until after June 30, 1910. The construction of the buildings, however, can proceed without delay, as there is a surplus in the fund allotted for new construction in 1910, in the Quartermaster's Department, which can be used for this purpose.

The west breakwater, extending from Toro Point at an angle of 42 degrees and 53 minutes from Colon light, will be constructed first. It will be about 10,500 feet in length, with a width at the top of 15 feet, and a height above mean sea level of 10 feet. The width at the bottom will depend largely on the depth of water. The survey of the bottom of the bay along the line of the breakwater showed the greatest depth to be about 43 feet, and at this point the embankment will approximate 180 feet in width. The east breakwater will be an isolated structure located at an interior angle of about 135 degrees to the west breakwater, and will be about 5,700 feet in length, with the other dimensions practically the same as those of the west breakwater.

The amount of fill estimated required in the construction of the breakwaters is 4,915,000 cubic yards, about one-half of which will be material excavated on the Point for the core of the west breakwater, and the balance Porto Bello rock. The east breakwater will require about one-half as much material as the west breakwater, but the cost of construction will be relatively larger, because the fill will probably have to be made entirely by barges and scows. The construction of the inner end of west breakwater will proceed by driving piling for trestle on which a track will be laid and trainloads of material hauled out on it and dumped. The shore end will be built entirely of Toro Point rock, in order to observe the effect of wave action. The width of the ship channel between the ends of the two breakwaters will be 2,000 feet, measured at right angles to the center line of the Canal prism. The total cost of both breakwaters is estimated at $11,543,600.

Disbanding of M. P. & M. A. A.

THE CANAL RECORD:

A called meeting of the officers and board of directors of the M. P. & M. A. A. was held at Empire on Sunday, April 3, when it was decided to disband the association as there was no indication of future activity by it. By the unanimous vote of those present, the treasurer was instructed to pay all outstanding bills and divide the balance remaining in his hands among the players who participated in a major part of the games of last season. The manager of the team was instructed to collect the uniforms, bats, masks, gloves, etc., belonging to the association and turn them over to the employes at Empire Shop for their future use. The books, papers and other records of the association will be held by the president at Empire for a period of 60 days after the publication of this notice, for inspection by any one who desires, and who is entitled to do so. The officers of the association, with present address, are as follows:

President, W. O. Johnson, Empire; vice-president, J. H. Moriarty, Empire; treasurer, E. C. Miller, Colon; manager, Wm. Fox, Empire; secretary, J. P. Mead, Colon.

Approved:

W. O. JOHNSON, *President.*
J. P. MEAD, *Secretary.*

Colon, April 11, 1910.

FEDERATED WOMEN'S CLUBS.

Annual Meeting Held at Empire on April 12.

The annual meeting of the Canal Zone Federation of Women's Clubs was held at Empire, on Tuesday, April 12. The club women were met at the station by a committee of members of the entertaining club. At 12.30 the Federation luncheon was served in the Commission hotel, a special menu having been prepared for the occasion. Covers were laid for 45, and the long tables were decorated with ferns and potted plants. Mrs. Herbert Pearson, president of the Empire club, and the members of the reception committee acted as hostesses. As the delegates left the hotel the Federation photograph was taken.

At 1.30 o'clock the business meeting was called to order in the entertainment hall of the clubhouse by the president of the Federation, Mrs. Thomas E. Brown, Jr. There were present, delegates from six clubs, the Federation officers and chairmen of committees, and a large number of club women and guests. The address of welcome was made by Mrs. Pearson who spoke on "Fellowship in Work." In the annual reports of the presidents, a general tendency to focus the efforts of the various organizations on the plans of the General Federation was evident. Each club has three departments—home, literary, and educational; and in some of the larger clubs, there are also philanthropy and social departments.

Some of the special efforts of the year include a playground and library movement, and the organization of chorus and dramatic departments in Empire; increasing membership and department features as found needful in Pedro Miguel; a chorus already organized and a movement to start a gymnasium class in Gorgona. The Gorgona club is cooperating with the Red Cross in a case of charity. Civic matters have been taken up from time to time, and the suggestions made by the club have met with favorable response. Since January, of this year, the membership has increased from nine to thirty-four. The department work of the Gatun club has been successfully carried out along domestic and social lines, and some civic work has also been done. With a membership of 60, the Cristobal club is the largest in the Federation. Through its educational department, a Spanish book on the palms of the Isthmus is being translated, and a copy of the translation will be presented to every child in the Commission schools in Cristobal and Colon. In her annual address, the president touched on the matter of cooperating with the work of the General Federation, and recommended the renaming of some of the committees of the Zone Federation to correspond in title, as they do in effort, with those of the parent organization. Thus, the philanthropy committee will hereafter be known as that of civics and philanthropy, and other changes of like nature will be made.

The Federation committees are appointed each year by the executive board at the first meeting after the annual. These have been, during the past year, eight in number, namely, art and literature, educational, philanthropy, home, health, library extension, botanical, and conservation. The art and literature and library extension committees have had charge of club programs and libraries respectively; the philanthropy committee has been active in various charities, and the home committee with the Isthmian cook book, which will be shortly completed and published. The prize of $10 offered by Miss LePrince, chairman of the conservation committee, will be awarded in May. This prize was offered to pupils in the Zone public schools for the best essay on "Canal Zone Waterways"; the pupils of the seventh and eighth grades only being allowed to enter the competition. In connection with the work of this committee, a children's league for bird protection is agitated, but no organization has been effected. The report of the health committee included a comprehensive survey of health conditions on the Isthmus and in the Canal Zone during the past year. The educational committee made the announcement that the establishment of kindergartens in the Zone was assured. The botanical committee has received a classification of the specimens of the flora of the Isthmus forwarded to Chicago, and it was recommended that the specimens be held for use in the public schools.

The cooperation of the Federation with the work of the Public Health Education Committee that has been formed in the Zone in connection with the American Medical Association, was asked, and the resolution adopted. The federated clubs will place one program in the year in the hands of this committee, when a lecture will be delivered on one of the subjects recommended, by a speaker selected by the committee. In accordance with a further suggestion in regard to cooperation with the efforts of the General Federation in the campaign against tuberculosis, a plan for some general observance of a day for the sale of the tuberculosis stamps is under discussion.

The Federation pins have been received and were on sale at the meeting. The pin has an etched design of a ship passing through Culebra Cut; at the foot is a shield bearing the date of the organization of the Federation—1907. The design is carried out in the Federation colors, green and gold. Changes in the by-laws were made providing for an increase of dues according to the number of members in a club, and for three vice-presidents, instead of four. As delegates to the tenth biennial convention of the General Federation to be held in Cincinnati, May 11 to 18, Mrs. Hiram J. Slifer, who retains her membership in the Cristobal club, and Mrs. May Byram, of Empire, were elected.

Mrs. Thomas E. Brown, Jr., was unanimously reelected president. The other officers are: Mrs. William L. Sibert, first vice-president; Mrs. Henry Ropes Trask, second vice-president; Mrs. George Brown, third vice-president; Miss J. Macklin Beattie, recording secretary; Mrs. Frederick Mears, corresponding secretary; Mrs. E. S. Calvit, treasurer; Mrs. Harry Girdner, auditor. The corresponding secretary is also the General Federation secretary and a member of the executive council of that organization.

At the social session a program was rendered, consisting of a piano solo by Mrs. Smith, a violin solo by Miss Jessie Smith, and a recitation by Miss Leslie Henshaw. Salad, sandwiches and coffee, cake and ice cream were served at small tables by a committee of the Empire club women, and during the luncheon, selections were played on the violin by Mrs. William H. Decker and Miss Smith, with Mrs. Smith at the piano.

Red Cross.

A meeting of the Ancon section of the Canal Zone Chapter of the American National Red Cross was held in Ancon hall on Monday evening, April 11, Judge Wesley M. Owen, chairman of the local advisory committee, was in the chair. A report of the disbursements of the Chapter's funds during the year was read by the treasurer, Lieut.-Col. John L. Phillips, which was followed by an outline of the general method employed in extending relief. This report was followed by remarks on the value of organized charity by Dr. A. J. Orenstein, and a second address on the desirability of increasing the membership of the local section by Mr. E. W. Price. Both of these gentlemen are members of the advisory committee. At the request of the chairman, remarks were made by Mr. Frank Feuille, Counsel and Chief Attorney for the Isthmian Canal Commission, and Rev. Henry B. Bryan. The Ancon section has a membership of about 100.

Anti-Cigarette League.

The boys of the Anti-Cigarette League, Section No. 1, Gorgona, held an entertainment at the Commission chapel on Thursday evening, March 31, the program consisting of miroscope and magic lantern views representing scenes in American history; dialogues, recitations, and songs. They were assisted by the members of Section No. 2. An admission fee was charged and the proceeds will be placed in the treasury for the purchase of books and further equipment for public entertainments. The picture apparatus was purchased recently by the section. The boys were assisted by Mr. Dohrman of Empire, who sang, and Mr. C. R. Packard, who acted as doorkeeper. The membership of Section No. 2 has been increased, and a number of new volumes have been added to the circulating library. At the regular meeting on Wednesday evening, March 23, an address was made by Mr. J. T. Hopkins on cigarettes and health. The section is planning for a day's outing at Tabernilla to be held this month. At the meeting on April 16, an election of officers was held in section No. 2, the following being chosen: Hartman Stevens, president; Leon Brown, vice-president; Daniel King, secretary; Julius Hinter, treasurer; John King, sergeant-at-arms; B. Verne Hackenberg, superintendent. The section is preparing for the celebration of its first anniversary, which will be held this month. There will be a program consisting of songs and recitations.

Church Notice.

A meeting of the Holy Name Society will be held at Cristobal College at Cristobal, at 2 p. m., on Sunday, April 24. All Catholic men are invited to attend.

Kindergarten Schools.

Plans submitted by the Superintendent of Schools for the establishment of kindergarten schools have been approved by the Chairman, effective October 1, 1910. Those who desire such privileges should apply to the Superintendent of Schools, Ancon, C. Z., on or before June 1. As far as practicable applications must be made on or before that date to secure kindergarten privileges.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

The men of the Culebra association are getting in line for a local bowling tournament in candle pins.

The standing of the men in the chess tournament is as follows:

	Won.	*Lost.*
Vogel	3	0
Wilson, C.	3	0
Warner	3	1
Putnam	3	2
Stearns	3	3
Dubois	2	3
Morgan	2	4
Hunter	0	7
Wilson	0	0

A basketball team is being organized and will be ready to play any association in a few weeks.

EMPIRE.

Mr. A. B. Dickson, formerly secretary of the 23d Street Y. M. C. A., New York City, arrived on the *Panama* last Monday, and proceeded at once to Empire, where he assumed his duties as secretary of the Y. M. C. A.

A series of four games of basketball between the Orioles and Tigers, two local teams, ended last Thursday night in a decisive victory for the Tigers, the score being 29 to 18. The following games have been played between these two teams:

March 23—Orioles, 19; Tigers, 13. April 1—Orioles, 17; Tigers, 14. April 7—Orioles, 18; Tigers, 9. April 14—Orioles, 18; Tigers, 29. A picked team from the Oriole-Tiger aggregation will play a match game with the Culebra Y. M. C. A., on Thursday evening of this week at Empire.

The Married Men were worsted in their last match game of duck pins with the Bachelors last week, the Bachelors taking two out of three games.

The Chicago ten pin team of Empire, defeated the Indianapolis team at Cristobal, last Saturday night, winning two out of three games. A return game will be played at Empire next Saturday night.

A ten pin city league is proposed.

The lecture on Isthmian history on Thursday night of this week will treat of "The French Fiasco," the story of DeLesseps and the French canal and of thirty years' events in Paris and Panama.

A pool tournament has been started and much interest is being shown.

The "Sons of Daniel Boone" will play a match game of indoor baseball with the "Boy Pioneers" next Saturday morning.

GORGONA.

The Spanish class which has been meeting Tuesday nights will meet hereafter on Thursday nights at 7.30 in the game room.

The regular gymnasium classes will meet Monday and Thursday nights under the direction of Jess T. Hopkins, physical director. All those interested in an afternoon gymnasium are requested to give their names to Joe Ebdon.

A bowling tournament will be started in the near future. All desiring to enter are requested to give their names to Mr. C. H. Hinckley, manager of the bowling alleys.

The monthly meeting of the executive council was held on Wednesday night of this week.

The Bible study clubs meet every Tuesday night at 7 30 p. m. Any one desiring to join can do so at any time during the course.

On Sunday night, April 24, the monthly song service will be addressed by Mr. J. D. Safford, secretary of the Y. M. C. A. at Camp Elliott.

On April 27, at 8.15 p. m., the Lyric Glee Club will give a concert at the Gorgona Y. M. C. A.

GATUN.

The first of a series of "Members Socials" was held last Friday evening and was very successful. The first part of the evening was devoted to a discussion of the various activities of the association. Mr. Smith, secretary of the association, presided and read statistical and financial reports for the month of March. The second part of the program consisted of music and a one act farce entitled "The Booking Agent," by the Gorgona Dramatic Club.

The "All Stars" won two out of three games from "Reds" Tuesday night, April 12, in a ten pin match. The "Cableways" lost their match with the "Angels" by two pins on Thursday night. One thousand six hundred and ninety-one games were rolled on the Gatun alleys between March 5 and 31.

Following are the results of the progressive pool contest held last Thursday evening:

Preliminaries—Hughes 50, Dalton 38; Eggleston 50, Byers 22; McLain 50, Bailey 42.

Second Preliminaries—Hughes 50, Eggleston 49.

Finals—McLain 50, Hughes 25, making Hughes winner of the contest. Mr. DePoorter acted as referee. Mr. Louis DePoorter, one of the members of the Gatun Y. M. C. A., issues a challenge to play any member of the Canal Zone associations at pool and will concede 25 balls in 150. Mr. DePoorter will play Mr. Wehmeier at Cristobal next Saturday night.

On Monday night, April 25, the Lyric Glee Club will give their first concert at the Gatun clubhouse.

The Gatun association has purchased a small athletic track in the rear of the clubhouse.

CRISTOBAL.

The minstrel show, for which the men have been practicing for a number of weeks, will take place on Friday night, April 22.

On Monday night, April 11, the Culebra indoor baseball team won the last game of the league from Cristobal by a score of 24 to 11.

The subject of the men's meeting for next Sunday, April 24, which is to be led by Mr. A. J. Goddard, will be "If You do, Why do You." Special music will be furnished by Mr. McCarthy.

A hand ball tournament will be started soon.

The scores for the bowling match between the Chicago team of Empire, and the Indianapolis team of Cristobal, last Saturday night resulted as follows: Chicago—773, 854, 706; Indianapolis—680, 695, 723.

The entire building is being repaired. The old stage in the hall has been removed, leaving a much larger space for athletic events.

PORTO BELLO.

The men of Porto Bello are showing a very keen interest in the activities of the association.

A membership committee has been organized with Mr. Lewis as chairman; also, an entertainment committee and a boat club committee.

A refreshment counter and barber shop are contemplated.

A smoker to all the men of Porto Bello was given Wednesday night, April 20.

CAMP ELLIOTT.

On Tuesday evening, the enlisted men enjoyed an informal entertainment in the gymnasium, on Thursday evening, the social committee entertained the Command, and on Saturday evening, there was a moving picture show.

GENERAL NOTES.

The Y. M. C. A. indoor baseball league closed its series of games with the Culebra association, the winner of the league. Following is the standing of the teams:

	Played.	*Won.*	*Lost.*	*Per Cent.*
Culebra	12	9	3	.750
Gorgona	12	8	4	.667
Cristobal	12	4	8	.333
Empire	12	3	9	.250

The Lyric Glee Club sailed from the States, April 18, and will arrive on the Zone on the 24th. They will appear in each of the six clubhouses, also at Camp Elliott and in the National Theatre, Panama. Their program will consist of quartet numbers, (vocal and brass) solos, duets, trios, readings, and a costume sketch. This will be the second visit of the Lyric Glee Club to the Isthmus.

The statistical report of the Y. M. C. A. clubhouses of the Canal Zone for the month of March, 1910, follows:

Total membership	1,403
Total number of bowling games	4,251
Number of different tournaments	5
Total number of tournament players	98
Total number of pool and billiard games	17,589
Total income from soda fountains	$2,398.29
Number of different men using gymnasiums	219
Total attendance of men using gymnasiums	1,240
Number enrolled in chess and checker clubs	43
Number enrolled in glee clubs	12
Number enrolled in dramatic and minstrel clubs	40
Number enrolled in camera clubs	75
Number enrolled in Bible clubs	137
Number enrolled in educational classes (Spanish)	47
Number of members of libraries	648
Total number of books withdrawn	1,304
Number of Sunday meetings	6
Attendance	821
Number of educational lectures	7
Attendance	380
Number of local entertainments	12
Attendance	3,360
Number of functions outside association management	14
Attendance	1,463
Number of afternoons for women	28
Attendance	476
Number of evening functions to which women were invited	17
Attendance	1,650
Number of different men on committees	101
Number of men called on in hospitals	75
Number of letters written at public tables	5,854
Total attendance at buildings	59,075
Average attendance per day	1,890
Number of beds used during the month	289

BOYS' DEPARTMENT.

Number of members	78
Number of afternoons for boys	55
Average attendance per afternoon	59
Total attendance in systematic gymnasium work	597
Outings	7

Dynamite and Excavation.

The economy effected during the past year in the use of dynamite in the Central Division, is shown by he following comparison of the amounts of rock excavated in March, 1909, and the amounts of dynamite used:

	Dynamite used.	Rock excavated.
	Tons.	*Cu. Yds.*
March, 1909	414.8	1,178,583
March, 1910	184.9	1,282,666

In March, 1909, the amount of dynamite used per cubic yard of rock excavated was 0.788 of a pound, and in March, 1910, 0.323 of a pound.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Gatun, C. Z., on Sunday, April, 24, 1910, at 2 p. m. The program follows:

1 March—*Chateau Gontier*.................Fischlin
2 Overture—*Hungarian Lustspeil*........Keler Bela
3 Waltz—*Impassioned Dream*................Rosas
4 a Medley March—*Come Back to Connemara*.Grey
  b Two Step—*Mollie Lee*....................Morse
5 Fantasia—*My Old Kentucky Home*........Dalbey
(With variations for different instruments.)
6 Paraphrase—*Silver Threads Among the Gold* (By request)........................Danks

Solos for cornet and trombone by Messrs. Smith and Sedwick.

7 Medley Selection—*Kerry Mill's Latest Songs*...............................Schulz

Introducing "Yes She Did," "Under the Chicken Tree," "I'm Tired of Living Without You," "Take Me Out for a Joy Ride," "Where Were You Last Night," "You'll Have to Ask Mother," "Pass dat Possum", "When a Pal of Mine Steals a Girl of Mine," "The Longest Way 'Round is the Sweetest Way Home " "Lonesome," "Rag Time Dance," "Don't Be An Old Maid, Molly," "A Georgia Barn Dance," "We're Almost Home," and "Sun Bird."

8 Intermezzo—*Flower Girl*................Wenrich
9 Selection—*Faust*..........................Gounod
10 March—*Victorious Eagle*...................Rosey

CHAS. E. JENNINGS, *Musical Director*.

A concert will be given at Gorgona, C. Z., on Sunday, May 1, at 6 p. m.

Sale of Personal Property.

EMPIRE, C. Z., April 18, 1910.

By direction of the Chairman and Chief Engineer, there will be sold at public auction at the office of the Treasurer of the Canal Zone, Empire, on Saturday afternoon, April 23, at 2.30, the following described property: 1 bed spread; 7 blankets; 2 khaki coats; 11 khaki trousers; 8 pair of leggins; 4 mosquito bars; 3 ponchos and raincoats; 9 spurs; 1 saddle; 1 suit case; 4 shirts; 2 pair of socks; 3 pair of shoes; 2 pair of slippers; 1 table cover; 1 umbrella; 1 suit of underwear.

Terms: Cash at time of purchase.

For any further information apply at office of Treasurer of Canal Zone.

H. S. FARISH,
Surveying Officer.
E. H. ASH,
Acting Treasurer of Canal Zone.
S. S. SIMPSON,
Representing Auditor, Government of the Canal Zone.

The following vessels arrived at, or departed from, the port of Balboa, during the week ending April 16:

Arrivals—April 11, *Ecuador*, from Guayaquil; April 14, *Peru*, from south ports and *Albany* (U. S. cruiser), from Corinto; April 15, *Pennsylvania*, from San Francisco.

Departures—April 9, *Barracouta*, for Central American ports; April 10, *Limari*, for south ports; April 12, *Tennessee* and *South Dakota* for Buenos Aires; April 13, *Quito*, for intermediate ports, April 14, *San José* for San Francisco.

Three hundred cuttings from the royal palms at Ancon Hospital have been set out at Mount Hope cemetery.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning April 21.

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	†8
Shoulder, neck trimmed off, (4 pounds and over)	per lb	†12
Entire forequarter (not trimmed), 10 pounds and over	per lb	†10
Leg (5 to 10 pounds)	per lb	†22
Cutlets	per lb	†24
Short-cut chops	per lb	†25
Lamb—Stewing	per lb	†8
Entire forequarter, neck trimmed off	per lb	†12
Leg (5 to 8 pounds)	per lb	†27
Chops	per lb	†29
Cutlets	per lb	†29
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	2
Soup	per lb	5
Stew	per lb	9
Corned	per lb., 12, 14,	16
Chuck roast	per lb	13
Pot roast	per lb	15
Rib-roast, second cut (not under 3½ pounds)	per lb	18
Rib-roast, first cut (not under 3 pounds)	per lb	20
Sirloin roast	per lb	21
Rump roast	per lb	21
Porterhouse roast	per lb	21
Steak, Chuck	per lb	14
Round	per lb	15
Rib	per lb	20
Sirloin	per lb	21
Porterhouse	per lb	21
Rump	per lb	21
Tenderloin	per lb	24

MISCELLANEOUS.

Livers—Beef	per lb	8
Calf	each	60
Half	each	30
Sausage—Pork	per lb	17
Bologna	per lb	14
Frankfurter	per lb	14
Leberwurst	per lb	14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	25
Oysters, in 1-quart kegs	keg	55
Oysters, in ½-gallon kegs	keg	90
Eggs, fresh	dozen	30

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, large	each	1.50
medium	each	1.30
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese	each	2.50
Pheasants	each 70,	1.00
Partridges	each	50
Grouse	each	85

CURED AND PICKLED MEATS.

Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Sugar cured	per lb	23½
Sugar-cured, sliced	per lb	27
Half, for boiling	per lb	24½
Boiled	per lb	†28
Hocks	per lb	8
Bacon—Breakfast, whole piece	per lb	28
Breakfast, sliced	per lb	29
Beef, salt, family	per lb	9
Pork, salt, family	per lb	†18
Ox tongues	each	80
Pigs' feet	per lb	†10
tongues	per lb	16
Mutton, mess	per lb	7

DAIRY PRODUCTS.

Butter—Creamery special	per lb	40
Cheese—Roquefort	per lb	38
Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	26
Edam	each	1.00
Neufchatel	each	6
Gouda	per lb	34
Milk, Briarcliff	bottle	**25

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	8
Lettuce	per hd *8, 12,	16
Cucumbers	per lb	12
Potatoes, white,	per lb	3
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	3½
Tomatoes	per lb	8
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	3
Cabbage	per lb	†4
Rhubarb	per lb	*7
Lemons	dozen	24
Apples	per lb	6
Tangerines	each	2
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4
Pineapples	each	18

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

OFFICIAL CIRCULAR.

Prosecuting Attorney.

CULEBRA, C. Z., April 12, 1910.

CIRCULAR NO. 317:

Mr. William K. Jackson is hereby appointed Prosecuting Attorney for the Canal Zone, vice G. M. Shontz, resigned.

GEO. W. GOETHALS, *Chairman*.

Supplies for Canal Work.

The following steamers, with supplies for the Isthmian Canal Commission, arrived at the ports of Cristobal and Colon, during the week ending April 16, 1910:

E. Russ, April 11, from Mobile, Ala., with 25 pieces creosoted piling for Division Engineer, Gatun; 13,440 feet Y. P. lumber for Division Engineer, Miraflores; 5,281 feet W. O. lumber for car repairs, Gorgona; 24,680 cross-ties, 712 pieces piling and 50 lavatories for stock.

Siberia, April 12, from New York, with 71 barrels alum for stock.

Advance, April 13, from New York, with 42 packages medical supplies for Sanitary Department; 65 cases electrical fuses for Central Division; 200 cases washing powder, 30 tons steel angles and bars, 12 tons iron nuts, 2,500 cases lubricating oil, 1 Monotype machine, 242 coils rope, 130 cases paint, 400 kegs zinc, 250 cases toilet paper, 36 tons bolts, 18 tons steel bars and 24 tons rivets for stock; and a miscellaneous cargo consisting of 5,907 packages, weighing 501 tons.

Atenas, April 14, from New Orleans, with 100 pieces piling and 14 tons castings for Empire store; 13,120 feet Y. P. lumber for Pacific Division; 74,973 feet lumber for drydock store; 105 cases lubricating oil, 100 beds, 15,348 feet W. O. lumber, 2,096 cross-ties and 405,450 pounds hay for stock.

Almirante, April 15, from New York, with 70 packages electrical material for Empire store; 40 tons steel billets, 20 barrels coal tar and 163 bags asbestos cement for stock.

Rainfall, April 1 to 16, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.17	5	2.57
Balboa	.89	5	2.09
Miraflores	1.04	16	2.04
Pedro Miguel	.42	14	1.35
Rio Grande	.92	16	2.30
Central Section—			
Culebra	.66	16	1.89
Camacho	.73	1	2.17
Empire	.91	6	1.67
Gamboa	.28	7	.97
Alhajuela	.30	16	.63
El Vigia	.18	1	.52
Gorgona	1.33	7	2.47
San Pablo	62	12	2.04
Tabernilla	.80	12	2.33
Bohio	.94	7	3.46
Trinidad	1.22	6	4.14
Monte Lirio	.74	11	2.64
Atlantic Section—			
Gatun	.76	16	3.10
Brazos Brook	.70	7	1.78
Cristobal	25	12	1.26

LOST—On road between Panama railroad station and Old Panama, a dark blue serge coat containing a $15 meal book, $15 commissary book, yearly pass book and Kangaroo pin. Please return to J. F. Huber, house 137, Culebra, C. Z.

BASEBALL.

ATLANTIC LEAGUE.

RESULTS OF GAMES, APRIL 10.

Morning Game—Commissary-Subsistence, 10; Colon, 10 (tie game.)

Afternoon Game—Colon, 11; Commissary-Subsistence, 4.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*P.*	*W.*	*L.*	*Pc.*
Com-Sub	11	9	2	.818	Civ. Adm	10	4	6	.400
P. R. R	10	5	5	.500	Colon	10	2	8	.200

SCHEDULE FOR APRIL 24.

Commissary-Subsistence vs. Panama Railroad.
Colon vs. Civil Administration.

C.-S.	AB.	H.	PO.	A.	E.	Colon.	AB.	H.	PO.	A.	E
Smith, ss	4	1	4	1	1	Clements, cf	5	1	1	0	0
Lindberg, lf	4	2	1	0	1	Wright, 1b	4	2	9	0	0
Curtis, 3b	4	1	2	1	1	Barney, 2b, p	3	1	5	1	2
Muggleton, 2b	4	0	0	3	1	Herring, c	3	3	1	3	0
McGinniss, cf	5	2	3	1	0	Emery, 3b	4	1	0	6	2
Coffin, rf	5	1	0	0	0	Massen, p, 2b	5	1	2	4	1
Payne, 1b	4	2	6	1	0	Stevens, ss	5	1	5	1	1
McCusty, c	4	3	11	2	1	Hope, rf	4	0	1	0	0
Simmons, p	1	0	0	3	0	Souders, lf	5	0	3	0	0
Totals	35	12	27	12	5	Totals	38	10	27	15	6

Com.-Subsistence	4	0	0	2	1	2	0	1	0	—10
Colon	0	6	0	0	1	0	0	3	0	—10

Runs—C.-S.: Smith (2), Curtis (2), Muggleton, McGinniss, Payne, McCusty (3); Colon: Clements, Wright (2), Barney (2), Herring (2), Stevens, Hope, Souders. Runs earned—Colon, 5; C.-S., 2. Two base hits—Stevens, Emery, McCusty, Curtis. Home run—Herring. Sacrifice hits—Lindberg, Simmons (2), Hope. Sacrifice fly—Curtis. Stolen bases—Lindberg (2), Herring, Souders. Bases on balls—Off Simmons, 6; off Massen, 3. Struck out—By Simmons, 10; by Barney, 1. Hit by pitcher—Herring. Left on bases—C.-S., 5; Colon, 9. Double plays—McGinnis to Simmons to Curtis; Barney to Massen. Umpire—Rohr. Time of game—2. Scorer—Rennard.

C.-S.	R.	H.	PO.	A.	E	Colon.	R.	H.	PO.	A.	E
Smith, ss	5	0	0	2	2	Stevens, 1b	3	1	11	0	1
Lindberg, lf	5	2	0	0	0	Murry, 2b	5	0	1	2	1
Curtis, 3b, p	4	0	0	1	0	Dockery, 3b	5	2	1	2	0
Muggleton, 2b	3	0	1	1	1	Herring, c	4	2	4	0	1
McGinnis, cf	4	1	2	0	0	A. Payne, cf	2	1	2	0	0
Coffin, rf	4	2	1	0	0	Weber, cf	2	1	3	0	0
Payne, 1b	4	2	8	0	1	Goree, p	4	0	0	6	0
McCusty, c	4	1	12	1	0	Souders, lf	4	1	4	0	0
Reese, p	1	0	0	0	0	Brady, rf	5	1	0	0	0
Beard, 3b	3	0	0	2	0	Bailey, ss	3	1	1	1	1
Totals	37	8	24	7	4	Totals	37	10	27	11	4

Com.-Subsistence	0	0	0	0	0	0	1	3	0	— 4
Colon	5	1	0	0	1	0	0	4	x	—11

Payne and Dockery playing with Colon team with permission of all clubs.

Runs—C.-S: Lindberg, Muggleton, McGinnis, Payne. Colon: Stevens (2), Murry, Dockery (3), Herring (2), Weber, Goree, Souders. Runs earned—Colon, 2; C.-S., 1. Two base hits—Dockery, Stevens, Lindberg, Brady. Three base hit—McCusty. Stolen bases—Dockery, Brady, Bailey, Weber, Muggleton, Lindberg (2). Bases on balls—Off Reese, 2; off Curtis, 2; off Goree, 1. Struck out—By Reese, 3; by Curtis, 7. Hit by pitcher—By Reese—Souders. Left on bases—Colon, 9; C.-S., 8. Umpire—Rohr. Time of game—1.45. Scorer—Rennard.

ISTHMIAN LEAGUE.

The Marine team failed to appear at Gorgona on Sunday, and did not notify the home team until that morning, so under the rules, the game as i now stands is forfeited to Gorgona, and is so shown in the table of percentages.

The game between Ancon and Empire at Empire was postponed on account of rain.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*P.*	*W.*	*L.*	*Pc.*
Empire	19	14	5	.737	Ancon	18	7	11	.384
Gorgona	21	14	7	.667	Marines	22	5	17	.227

SCHEDULE FOR APRIL 24.

Gorgona at Ancon.
Marines at Empire.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, April 16, 1910.

DAY AND DATE.	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft.	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, April 10	127.0	94.0	47.3	5.5	2.0	....
Monday, April 11	127.0	93.8	47.2	4.0	1.9	....
Tuesday, April 12	127.4	94.3	47.6	4.1	1.8	....
Wed'esday, April 13	127.2	94.1	47.5	4.6	2.1	....
Thursday, April 14	127.0	93.9	47.3	4.1	2.1	....
Friday, April 15	126.8	93.7	47.2	4.0	1.9	....
Saturday, April 16	128.8	95.2	48.4	4.0	1.9	....

OFFICIAL DIRECTORY OF PANAMA.

President—Carlos A. Mendoza (Second Vice-President.)

Departments of National Government.

Secretary of Government and Justice—Ramón M. Valdés.
Assistant Secretary—Aizpuru Aizpuru.
Secretary of Foreign Affairs—Samuel Lewis.
Assistant Secretary—(Vacant.)
Secretary of Finance—Juan Navarro D. (Assistant Secretary in charge.)
Secretary of Public Works—J. E. Lefevre.
Assistant Secretary—Luis E. Alfaro.
Secretary of Public Instruction—Eusebio A. Morales.
Assistant Secretary—Angel M. Herrera.
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Director General of Statistics—J. A. Henriquez.
Administrator General of Public Lands—Jeronimo J. García.
Treasurer General—Juan J. Méndez.
Chief Engineer—J. G. Holcombe.

Judiciary.

Chief Justice of the Supreme Court—F. V. de la Espriella.
Judges of the Supreme Court—Aristides Arjona, Juan Lombardi, Juan B. Amador G.
Attorney General—Santiago de la Guardia.

Governors of Provinces.

Panama—Pedro A. Diaz.
Colon—Rafael Neira A.
Bocas del Toro—(Vacant.)
Coclé—Damián Carlés.
Los Santos—Mauricio Correa.
Veraguas—Adolfo Fábrega.
Chiriquí—Domingo de Obaldía F.

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Panama—Mayor (Alcalde) J. A. Arango.
Chief of Police—Leonidas Pretelt.
Colon—Mayor (Alcalde) Benigno Andrión.
Chief of Police—Ricardo Arango J.

DIPLOMATIC CORPS.

Ministers Accredited to Panama.

United States—R. S. Reynolds Hitt.
George T. Weitzel, Secretary of Legation.
Brazil—Antonio da Fontaura Xavier, residing in New York.
A. J. Amaral Murtinho, Secretary of Legation, residing in Guatemala.
Chile—Carlos Vergara Clark, resident in San José, Costa Rica.
Antonio B. Agacio, Secretary of Legation, Panama.
Great Britain—Claude Coventry Mallet, Minister Resident.
Netherlands—H. de Reus, residing in Caracas.
Nicaragua—Isidoro Hazera.
Peru—Federico Alfonso Pezet.

Charge D'Affaires.

Ecuador—Ramón Arias, Jr.
France—Henri Arthur Marie Barre-Ponsignon.
Guatemala—J. A. Tamayo.
Salvador—Federico Boyd.
Spain—Francisco Garcés, ad-interim.

CONSULAR CORPS.

Consuls Residing at Panama.

United States—Alban G. Snyder, Consul-General (and in charge of interests of China.)
C. E. Guyant, Vice and Deputy Consul-General.
Belgium—B. D. Fidanque, Consul.
Bolivia—Samuel Boyd, Consul-General.
Brazil—Ramón Arias F., Consul.
Chile—Antonio B. Agacio, Consul-General.
Juan Ehrman, Vice-Consul.
Costa Rica—Luis Uribe, Consul.
Cuba—J. Gabriel Duque, Consul.
Denmark—S. L. Maduro, Consul.
Ecuador—Ramón Arias, Jr., Consul.
Pedro Arias F., Vice-Consul.
France—Albert Drapin, Consul.
Emile Gey, Vice-Consul.
Germany—Arturo Kohpcke, Consul (absent), in charge of Max Freundlich.
Great Britain—D. F. S. Filliter, Vice-Consul.
E. S. Humber, Pro-Consul.
Guatemala—José Fernando Arango, Consul-General.
Greece—Florencio Arosemena, Consul.
Honduras—Pedro Gravé Peralta, Consul-General.
Italy—Arturo Kohpcke, Consul.
Lodovico Delpiano, in charge.
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Baldomero Mendez, Vice-Consul.
Netherlands—Dr. A. Jesurum, Jr., Consul.
Nicaragua—Julio Arjona Q., Consul.
Federico O. Boyd, Vice-Consul.
Norway—Alexander Morrice, Vice-Consul.
Peru—Alberto B. deObarrio, Consular Agent.
Portugal—Ramón Arias F., Consul.
Salvador—Federico O. Boyd, Vice-Consul.
San Domingo—Mauricio Fidanque, Consul.
Sweden—R. B. de St. Malo, Consul.
Spain—José de Cubas S., Consul, resident in Madrid.
N. Perez Petinto, Vice-Consul.

Consuls Residing at Colon.

United States—Dr. J. C. Kellogg, Consul.
J. M. Hyatt, Vice-Consul.
Austria—Fco.Ullrich, Consul.
Belgium—C. H. R. Raven, Vice-Consul.
Chile—Ernesto Jaramillo Aviles, Consul.
Costa Rica—A. Pacheco Cabezas, Consul.
Daniel Rojas P., in charge.
Denmark—Joseph Fidanque, Vice-Consul
France—Leon Huttinot, Vice-Consul.
Germany—Alfredo Sange, Consul.
Great Britain—Harry Owen Chalkley, Vice-Consul.
Italy—Segundo Rossi, Consular Agent.
Mexico—A. M. Rojas, Consul.
Netherlands—J. J. Ecker, Sr., Vice-Consul.
Norway—H. B. Parker, Consul.
Peru—Porter Stone McCormick, Consul (absent.)
San Domingo—J. M. Fidanque, Vice-Consul.
Spain—Antonio Andrade Polanco, Vice-Consul.
Sweden—J. J. Ecker, Sr., Vice-Consul.
Venezuela—Enrique Rangel, Consul-General.
F. Salcedo Ochoa, Consul.

Misdirected Letters.

Division of Posts, Customs and Revenues,
Ancon, C. Z., April 20, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Archer, Clifford F.
Berry, Hezekiah
Biddle, Col. W. P.
Britten, Cleaver C.
Carswell, L. C.
Chamberlain, Paul Ford
Chambers, W. I.
Croscup, S. D.
Devonish, Mrs. W. D.
Dierkes, John
Egan, John
English, J. A.
Fogleman, E. L.
Fryer, Mrs. C. F.
Greenberg, Morris
Helyer, C. W.
Jatron, Stairon
Jenkins, H. A.
Knight, Mrs. Evart
Koehler, C. A.
Kursey, Mrs. Harry
Luke, Miss Aletha
Martinez, A.
McBride, Astley
Miller, Martin Nixon
Moeller, Leonard
Munchow, Mrs.
Ross, Frank B.
Shutes, Walter
Spoot, Mathew
Thompson, Charles Jenner
Van Orden, Capt. George
Wilson, J. A.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending April 27, 1910 (75th meridian time):

Date.	High.	Low.	High.	Low.
	A. M.	A. M.	P. M.	P. M.
April 21	2.03	8.03	2.24	8.33
April 22	2.52	8.48	3.05	9.14
April 23	3.30	9.30	3.40	9.50
April 24	4.05	10.05	4.11	10.24
April 25	4.35	10.38	4.40	10.57
April 26	5.03	11.10	5.10	11.30
April 27	5.34	11.42	5.38	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Proposals for Erection of Buildings on Toro Point.

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, C. Z., until 3 p. m., May 2, 1910, and then opened, for the erection by contract of one type-27, two type-18, and three type-14 houses at Toro Point. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $500 when the contract is signed.

C. A. Devol,
Chief Quartermaster.

Sale of Isthmian Canal Buildings.

Office of Chief Quartermaster,
Culebra, C. Z., April 8, 1910.

Sealed proposals for the purchase of buildings Nos. 41, 42, 58, 59, 63, 72 and 132, located at Caballo Viejo, and buildings Nos. 183, 184, 186, 187 and 188, at Juan Grande will be received here until 2 p. m., April 25, 1910, and then opened. Bids to be accompanied by a guarantee in amount $50 U S. currency. Buildings to be removed within 30 days. Envelopes containing proposals must be indorsed "Proposals for purchase of public buildings at Caballo Viejo and Juan Grande" and addressed:

C. A. Devol, *Chief Quartermaster.*

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Allianca	P. R. R.	Monday	Apr. 18
Colon	P. R. R.	Monday	Apr. 25
Advance	P. R. R.	Saturday	Apr. 30
Panama	P. R. R.	Friday	May 6
Allianca	P. R. R.	Thursday	May 12
Colon	P. R. R.	Wednesday	May 18
Advance	P. R. R.	Tuesday	May 24
Panama	P. R. R.	Tuesday	May 31
Allianca	P. R. R.	Monday	June 6
Colon	P. R. R.	Monday	June 13
Advance	P. R. R.	Saturday	June 18
Panama	P. R. R.	Friday	June 24
Allianca	P. R. R.	Thursday	June 30
Colon	P. R. R.	Thursday	July 7
Advance	P. R. R.	Tuesday	July 12

CRISTOBAL TO NEW YORK.

Panama	P. R. R.	Sunday	Apr. 24
Ancon	P. R. R.	Monday	Apr. 25
Allianca	P. R. R.	Saturday	Apr 30
Colon	P. R. R.	Friday	May 6
Advance	P. R. R.	Thursday	May 12
Panama	P. R. R.	Wednesday	May 18
Allianca	P. R. R.	Wednesday	May 25
Colon	P. R. R.	Tuesday	May 31
Advance	P. R. R.	Monday	June 6
Panama	P. R. R.	Sunday	June 12
Allianca	P. R. R.	Saturday	June 18
Colon	P. R. R.	Saturday	June 52
Advance	P. R. R.	Thursday	June 30
Panama	P. R. R.	Wednesday	July 6
Allianca	P. R. R.	Tuesday	July 12
Colon	P. R. R.	Tuesday	July 19
Advance	P. R. R.	Saturday	July 23
Panama	P. R. R.	Saturday	July 30

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

NEW YORK TO COLON.

Santa Marta	U. F. C.	Thursday	Apr. 14
Clyde	R.-M.	Saturday	Apr. 16
Metapan	U. F. C.	Thursday	Apr. 21
Prinz Joachim	H.-A	Saturday	Apr. 23
Zacapa	U. F. C.	Thursday	Apr. 28
Atrato	R.-M.	Saturday	Apr. 30
Almirante	U. F. C.	Thursday	May 5
Prinz Aug. Wilhelm	H.-A	Saturday	May 7
Santa Marta	U. F. C.	Thursday	May 12

COLON TO NEW YORK.

Thames	R.-M.	Wednesday	Apr. 20
Almirante	U. F. C.	Friday	Apr. 22
Prinz Aug. Wilhelm	H.-A	Tuesday	Apr. 26
Santa Marta	U. F. C.	Friday	Apr. 29
Metapan	U. F. C.	Friday	May 6
Prinz Joachim	H.-A	Tuesday	May 10
Zacapa	U. F. C.	Friday	May 13
Almirante	U. F. C.	Friday	May 20

NEW ORLEANS TO COLON.

Atenas	U.F.C.	Saturday	Apr. 9
Turrialba	U.F.C.	Saturday	Apr. 16
Abangarez	U.F.C.	Saturday	Apr. 23

COLON TO NEW ORLEANS.

Atenas	U.F.C.	Thursday	Apr. 21
Turrialba	U.F.C.	Thursday	Apr. 28
Abangarez	U.F.C.	Thursday	May 5

COLON TO BARBADOS, CALLING AT TRINIDAD.

Clyde	R.-M.	Tuesday	Apr. 26

The next sailing of the Leyland Line will be as follows: *Antillian* for New Orleans, via Kingston, Ja., on or about May 30.

Hamburg-American steamers leave for New York at 10 a. m., and for Port Limon every Wednesday at 2 p. m.

Royal Mail steamers leave for New York early in the morning and passengers should be on board the night before.

United Fruit Company ships for New Orleans leave at 3 p. m., and for New York at 10 a. m.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, APRIL 27, 1910. No. 35.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications

THE CANAL RECORD

Ancon, Canal Zone,

Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Chairman's Monthly Report.

The report of the Chairman of the Isthmian Canal Commission for the month of March is published in full in other columns of this issue of THE CANAL RECORD. It gives a detailed account of the progress of Canal work in all departments and divisions.

One Concrete Barge Finished.

The first of the three concrete barges to be constructed for use in connection with the hydraulic operations in the Pacific Division was successfully launched on Wednesday, April 20. The barges are being built, one at a time, on the west bank of the Canal nearly opposite Corozal. The completed barge draws about three feet of water, and when mounted with dredging pump, motor and equipment, weighing approximately 60,000 pounds, it is expected that it will draw an additional nine inches. The amount of reinforcing material in the construction of the remaining two barges will be less than in the first, which will materially reduce the weight in the aggregate. One half inch wire mesh No. 12 will be used in the wall construction of the other two barges, instead of ¼-inch No. 12. The completed barge will probably be towed to the point where it is desired to begin operations, before the dredge pumps and other machinery are installed on board of it.

Big Ladder Dredge for Pacific Entrance.

It has been decided to purchase a ladder dredge with 2-yard buckets for excavation in the Pacific entrance to the Canal, and to this end the Washington office has been directed to advertise for bids. The dredge required must have buckets of two cubic yards capacity each, and be capable of excavating 1,000 cubic yards of material an hour. It must be of the sea-going type, be completely erected at the manufacturer's yards, make the voyage to Balboa under its own steam and be delivered there within one year after the contract is let. It must be equipped to discharge overboard into barges or into its own bins, and must be capable of carrying 1,200 cubic yards of material in its bins.

Compared with the *Gopher*, the only seagoing ladder dredge in the Canal service, the new dredge will have buckets of about five times the capacity of those on the *Gopher*, will be able to excavate three times as much in an hour, and will be able to dump from its own bins, whereas the *Gopher* discharges only into barges. Including the *Gopher* there are now four rebuilt French ladder dredges in operation in the Pacific entrance, and the new dredge will have a capacity equal to that of all of them.

The 10-yard dipper dredge for which bids were asked some time ago has been advertised again, because no satisfactory bids were received on the first advertisement.

The Inner Harbor at Balboa.

Clearing has been begun in the area of the inner harbor at Balboa, and two drilling gangs have been set at work. The clearing is on low land, some of which is covered with water at high tide, and the material to be removed is largely mangrove and other deciduous growth, similar to that cleared from the Canal prism between Balboa and Corozal. The drilling is done to determine the amount of rock that will be met in excavating the harbor. Holes are sunk on 500-foot centers to 40 feet below mean sea level. At present only wash drillings are made, but diamond drill holes will be sunk later, when it is desired to determine the quality of the rock in various places.

Discharge of the Chagres at Gatun.

The mean discharge of the Chagres River at Gatun during March was the maximum of record. The gaging station at this point was established in May, 1908, when two of the three channels through which the river flowed past Gatun were closed, leaving the West Diversion as the only outlet. The dry season discharge of 1909 (February, March and April) was unusually heavy. The mean discharge at Bohio for those three months, 2,030 cubic feet per second, was exceeded only twice since 1890, and it is with 1909 that the discharge at Gatun is compared. The mean, maximum and minimum discharge at all stations in March, 1910, and 1909, are shown in the following table:

STATION.	Low water ab. sea level—Feet.	CUBIC FEET PER SECOND.					
		MEAN.		MAXIMUM.		MINIMUM.	
		1910.	1909.	1910.	1909.	1910.	1909.
Alhajuela	92.00	1,625	1,155	19,400	3,165	1,090	780
Bohio	1.00	1,875	1,325	12,500	2,470	1,225	910
Trinidad River		565	368	2,175	642	330	236
Gatun River		270	157	2,360	487	190	106
Gatun	0.00	3,160	2,150	18,000	4,005	1,800	1,115

WEST DIVERSION CLOSED.

Water In Gatun Lake at 14 Feet Above Sea Level.

On April 22, the work of closing the channel through which the Chagres River flowed past Gatun was begun and it was completed at 5 p. m., April 25. This step marks the beginning of Gatun Lake, and records a distinct stage in the building of Gatun Dam.

The construction of the Dam has been carried on in three sections—(1) the east section, extending from Lock Hill on the east to Spillway Hill, about half-way across the valley; (2) the Spillway, which is being constructed through Spillway Hill; and (3) the west section, which extends from Spillway Hill to the hills that form the west wall of the valley.

When the work began at Gatun the Chagres flowed past that village in three channels—one the natural bed of the river; a second, the canal which the French had dredged 15 miles inland; and a third a diversion channel known as the West Diversion. In the construction of the east section of the Dam, the river and the French canal were filled in 1908, and since that time the stream has flowed through the West Diversion. While the construction of the toes and the hydraulic fill of the east section have been advancing, the work of dumping rock and miscellaneous spoil on the toes of the west section has gone steadily forward, and a ridge whose top is 30 feet above sea level now extends along the south or upstream line of the Dam from Spillway Hill to the hills on the west. A similar ridge at a less elevation extends along the south line of the west section of the Dam.

Where it crossed the line of the south or upstream toe, the river flowed in two channels half a mile apart, which united immediately north of the line of the south toe. In cutting off the river the western channel was filled first, thus forcing all the water through the main channel of the West Diversion. The filling was begun late in the afternoon of April 22, with the river 7 feet above low water, which is at sea level at Gatun, and was continued in the face of a strong although subsiding freshet. On the 23d, 760 cars of spoil were dumped on the south toe, the largest amount placed in one day, and much of it went into the West Diversion. It is proposed to raise the south toe to 40 feet above sea level as soon as possible, thus putting it beyond the reach of any flood that may be anticipated in the approaching rainy season.

One result of closing the West Diversion will be to force the river to find an outlet through the spillway of the Dam. To do this it must rise to 10 feet above sea level, since that is the elevation of the spillway floor, and at a low stage the stream will be flowing over the the floor about four feet deep. With the water at 14 feet above sea level the flats south of the Dam will be flooded.

When the surface of the water is at 10 feet above sea level 13.8 square miles of land will be flooded, and when it is at 20 feet above sea level 29.2 square miles will be flooded. At 10 feet above sea level the water will reach to Lagaterra on the Trinidad River, which is 5 miles in a straight line southwest of the French canal; to the neighborhood of Monte Lirio on the Gatun River, which is about 4 miles in a straight line from the French canal; and about to Bohio on the Chagres. At elevation 20 the water will extend about 6 miles further up the Trinidad and 4 miles further up the Gatun River, all of the distances given being air line. On the Chagres at elevation 20, very little country will be flooded above Buena Vista, but the river itself will be affected as far as Tabernilla.

In times of freshet the valley will be flooded more frequently than heretofore, and the present line of the Panama railroad will be subject to repeated inundation, where it runs through the lake region between Gatun and Bas Obispo. In the latter contingency the relocated line, which has just been connected between Gatun and Gamboa, can be used. The beginning of Gatun Lake is merely incidental to the construction of the west half of Gatun Dam. It is not proposed to raise the surface further until the construction of the concrete dam across the upstream entrance to the Spillway is completed, when the water in the lake will reach an elevation of 69 feet above sea level before in can find egress through the Spillway. The final level will be 85 feet above the sea.

The Spillway through which the river is flowing is built through a rock hill, is 285 feet wide, the highest part of the floor is at 10 feet above sea level, and 1,200 feet of the length is lined with concrete. Across the upstream or south end a concrete dam will be built with its top 69 feet above sea level, and on it the regulating gates will be erected. The foundation of this dam is laid, and the bonding of its ends into the rock of the hill has been provided for. A description of the proposed concrete dam was published in THE CANAL RECORD of September 8, 1909. A few yards south of the line of the concrete dam 16 piers of concrete have been erected, with tops at 15 feet above sea level, forming the arc of a circle across the entrance to the Spillway. When it is desired to lay concrete in the dam the water will be shut off from the part where the work is to be done by timber dams held in place by these piers.

Two trestles span the Spillway channel, one on the south and one on the north toe of the Dam. These trestles will be used, as heretofore, by trains carrying spoil to be dumped on the toes of the west section. A permanent bridge is in process of construction across the spillway half-way between the north and south toes, and only one girder remains to be placed before it also will connect the east and west halves of the Dam.

The day before the West Diversion was closed, one of the 20-inch suction dredges (*No. 85*), which had been assisting in the hydraulic fill of the east section on the north side, was towed to the south side of the west section. It had been undergoing general repairs at Cristobal marine shops and was towed around from that point by sea to the mouth of the Chagres River, thence up the river to its present position. For some time past laborers have been clearing the land to be covered by the fill in order that a perfect bond may be made between the two materials. For the present the fill will be confined to the old West Diversion channel.

Pedro Miguel Locks.

The one hundred thousand yard mark was passed last week in the laying of concrete in the locks at Pedro Miguel, and at the close of work on April 23 there had been placed 102,369 cubic yards. The record for the week and the totals follow:

	Cubic Yards.
April 18	953½
April 19	1,040½
April 20	1,012
April 21	965
April 22	1,109½
April 23	927½
Total	6,008
Previously reported	96,361
Grand total	102,369

Of the amounts given 34 cubic yards represent large stones laid in mass during the week, and 653 cubic yards represent large stone laid to date. Of the 6,008 cubic yards laid during the week 5,508 yards were from two mixers in the construction plant, which was worked 93 hours. The 2-yard mixers in the auxiliary plant were not used, but the half yard mixers were worked 46½ hours and turned out 466 cubic yards.

Odd Fellows.

The 91st anniversary of the founding of the Independent Order of Odd Fellows will be celebrated by the lodges of the Canal Zone at Gorgona on Sunday, May 1, by invitation of the Gorgona lodge and the auxiliary order of the Daughters of Rebekah. At noon a basket lunch will be served at the Commission clubhouse, and a program will be given in the entertainment hall at 2 p. m. A cordial invitation is extended to all visiting Odd Fellows and their families. The work of the order was begun on the Isthmus in 1907, and the year following the Gorgona Daughters of Rebekah, Lodge No. 1, was organized. Lodges have been organized in Cristobal, Gorgona, Culebra and Ancon. There is an estimated membership of 300.

All members in good standing in the Independent Order of Odd Fellows are cordially invited to meet with the members of Ancon Club I. O. O. F., and participate in the ceremonies of institution, and installation of Pacific Lodge No. 4, in Ancon Hall, on Saturday evening, April 30.

There were enrolled in the Canal Zone schools during March 1,940 pupils. Of this number 819 were enrolled in the 12 schools for white children, and the average daily attendance was 713.6. The number enrolled in the 15 schools for colored children was 1,121, and the average daily attendance was 610.9

Boxes with cards addressed to Comptroller of Cristobal Court No. 8 have been placed in the wards at Colon Hospital. Kangaroos are urged to fill out one of these cards immediately upon being admitted to the hospital and to send it to the Comptroller. This will ensure a visit being made and the home court being notified.

FOURTH OF JULY.

Celebrations to Be Held at Cristobal and Ancon.

The Fourth of July will be celebrated both at Cristobal and Ancon this year, according to plans outlined at a meeting of a committee, representing all the Canal Zone towns, held at Ancon on April 25, Mr. H. H. Rousseau, presiding. Both celebrations will be held under the direction of an executive committee, but each will be in the hands of local committeemen.

A general subscription will be taken up, but each subscriber will be allowed to indicate to which celebration he prefers to have his money given. If he has no preference the money he subscribes will be placed in a joint fund which will be given to either or both celebrations according as they may need money. Mr. E. J. Williams of Empire was appointed chairman of the finance committee with instructions to have subscription blanks printed and in the hands of subcommitteemen before pay day in May.

Mr. Rousseau was elected chairman of the executive committee with authority to appoint the chairmen of the subcommittees for the two celebrations. Each chairman of a subcommittee will appoint his own committeemen, and the chairmen of the subcommittees, with the elected chairman of the executive committee, will compose the executive committee.

The chairmen of committees are as follows:

Amusement—Maj. Chester Harding, Gatun.
Transportation—Mr. J. A. Smith, Cristobal.
Marines—Maj. S. D. Butler, Camp Elliott.
Finance—Mr. E. J. Williams, Empire.
Decorations—Capt. Courtland Nixon, Cristobal.
Fireworks—Lieut. R. E. Wood, Culebra.
Dancing—Dr. J. C. Perry, Ancon.
Publicity—Mr. T. M. Cooke, Ancon.
Music—Mr. C. E. Jennings, Cristobal.

A meeting of the executive committee will be held the latter part of next week, at which the committee chairmen will report an outline of their plans, and the organization of their committees. The reports of the celebrations held since 1906 are in the hands of Mr. G. A. Ninas in the Department of Civil Administration office in Ancon, where they are at the disposal of committee chairmen. The chairman of the executive committee and the chairmen of the sub-committees will be pleased to receive suggestions from any source with regard to the program.

Nearly Half a Million Worth of Money Orders

The value of money orders issued by Canal Zone post-offices in March was $481,515.67, which is the largest amount ever issued in one month. The largest previous monthly business was that of December, 1909, when $460,314.08 worth was issued. Of the March business, $366,095.81 were payable in the United States, while in December, 1909, $368,612.65 were payable there. A larger amount of orders was issued for the Canal Zone in March, $114,837.36; than in December, 1909, $91,212.83. The business with Martinique amounted to $582.50 in March, and to $486.50 in December. The total number of orders issued in March was 19,596 and in December, 19,862.

The local order of Kangaroos at Gatun held a "Hard Times" dance at the clubhouse on Saturday evening, April 16. On Saturday, April 23, the regular dance of the Gatun Club was held.

CUSTOMS REGULATIONS.

Restrictions on Importations into the United States.

So many inquiries are being made with regard to the effect of the new tariff law on articles taken by citizens of the United States resident in the Canal Zone to the United States, that the following information recently furnished to the Collector of Customs is published:

Paragraph 709 of the new tariff law, which relates to duty on personal effects, is identical with the paragraph on the same subject in the old tariff law, and reads as follows:

> Wearing apparel, articles of personal adornment, toilet articles, and similar personal effects of persons arriving in the United States (shall be exempt from duty); but this exemption shall only include such articles as actually accompany and are in the use of, and as are necessary and appropriate for the wear and use of such persons, for the immediate purposes of the journey and present comfort and convenience, and shall not be held to apply to merchandise or articles intended for other persons or for sale; Provided that in case of residents returning from abroad, all wearing apparel and other personal effects taken by them out of the United States to foreign countries shall be admitted free of duty, without regard to their value, upon their identity being established, under appropriate rules and regulations to be prescribed by the Secretary of the Treasury, but no more than one hundred dollars in value of articles purchased abroad by such residents of the United States shall be admitted free of duty upon their return.

The change is in the interpretation placed upon it in the Treasury Department Circular of February 4, 1910, which emphasizes the fact that the law provides for the admission free of duty of personal effects accompanying the passenger. The circular reads:

> Foreigners are entitled to bring in free of duty such articles as are in the nature of wearing apparel, articles of personal adornment, toilet articles and similar personal effects accompanying the passenger and necessary and appropriate for his or her wear and use for the purposes of the journey and present comfort and convenience and are not intended for other persons nor for sale, without regard to the $100 limitation.
>
> Citizens of the United States may have this privilege provided it is shown to the satisfaction of the collector's representative on the pier, subject to the collector's approval, that they are bona fide residents of a foreign country.

A decision of the Attorney General made on September 8, holds that for customs purposes the Canal Zone is a foreign territory.

The regulations with regard to declaration of personal effects provide:

> Residents of the United States must declare all wearing apparel, jewelry, and other articles, whether used or unused, on their persons, in their clothing, or in their baggage, which have been obtained abroad by purchase or otherwise, with the foreign cost or value of the same. They shall state as well all wearing apparel, jewelry, or other articles taken out of the United States which have been remodelled or improved while abroad so as to increase their value, the said statement to include the cost of such improvement. By stating the value of all declared articles in United States money and packing the same so as to be easily produced for examination (and in one trunk if practicable) passengers will expedite the appraisement of the same upon the pier. Whenever practicable, passengers should present the original receipted bills for foreign purchases.
>
> Residents of the United States are allowed $100 worth of articles in the nature of personal effects at their present foreign value, free of duty, provided they are not intended for other persons or for sale or to be used in business, and are properly declared.
>
> Use does not exempt from duty wearing apparel or other articles obtained abroad, but such articles will be appraised at their present value.
>
> Residents of the United States may also bring with them, free of duty, all wearing apparel and other personal effects taken by them out of the United States which have not been remodelled or improved abroad so as to increase their value.
>
> Residents of the United States must not deduct the $100 exemption from the value of their wearing apparel or other articles obtained abroad or by purchase or otherwise. Such deductions will be made by customs officials on the pier.
>
> Household effects of persons or families from foreign countries will be admitted free of duty if actually used abroad by them not less than one year, and not intended for any other person or for sale. Such effects should be declared whether the passenger be a foreigner or resident of the United States.
>
> Articles intended for other persons, for use in business, theatrical apparel, properties, and sceneries, must also be declared by passengers, whether foreigners or residents.
>
> All cigars and cigarettes must be declared and are not included within the $100 exemption. Each passenger over 18 years of age is entitled to bring in free of duty and internal revenue tax either 50 cigars, or 300 cigarettes for his or her bona fide individual personal consumption.

Amendment to Employers' Liability Act.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That an Act entitled "An Act relating to the liability of common carriers by railroad to their employes in certain cases," approved April twenty-second, nineteen hundred and eight, be amended in section six so that said section shall read:

"SEC. 6. That no action shall be maintained under this Act unless commenced within two years from the day the cause of action accrued. Under this Act an action may be brought in a circuit court of the United States, in the district of the residence of the defendant, or in which the cause of action arose, or in which the defendant shall be doing business at the time of commencing such action. The jurisdiction of the courts of the United States under this Act shall be concurrent with that of the courts of the several States, and no case arising under this Act and brought in any state court of competent jurisdiction shall be removed to any court of the United States."

SEC. 2. That said Act be further amended by adding the following section as section nine of said Act:

"SEC. 9. That any right of action given by this Act to a person suffering injury shall survive to his or her personal representative, for the benefit of the surviving widow or husband and children of such employe, and, if none, then of such employe's parents; and, if none, then of the next of kin dependent upon such employe, but in such cases there shall be only one recovery for the same injury."

Approved, April 5, 1910.

Rainfall, April 1 to 23, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.17	5	3.02
Balboa	.89	5	2.44
Miraflores	1.04	16	4.32
Pedro Miguel	1.00	18	3.27
Rio Grande	.92	16	4.54
Central Section—			
Culebra	.98	21	4.52
Camacho	1.56	22	5.33
Empire	.91	6	3.21
Gamboa	.64	22	2.34
Alhajuela	.97	21	1.86
El Vigia	.29	21	1.26
Gorgona	1.33	7	5.11
San Pablo	.98	22	5.12
Tabernilla	1.21	21	5.26
Bohio	1.52	21	5.15
Atlantic Section—			
Gatun	.76	16	4.18
Brazos Brook	.70	7	4.32
Cristobal	.96	21	2.36

EXECUTIVE ORDER.

Appointment of New Commissioner.

Maurice H. Thatcher is hereby appointed a member of the Isthmian Canal Commission with compensation at the rate of fourteen thousand dollars ($14,000) per annum, effective upon date of sailing for the Isthmus of Panama.

Commissioner Thatcher will be allowed the use of a furnished dwelling house on the Isthmus of Panama and will be allowed and paid his actual and necessary expenses while away from the Isthmus on official business. WM. H. TAFT.

THE WHITE HOUSE, *April 12, 1910.*

[No. 1188.]

OFFICIAL CIRCULARS.

Laboratory Assistant.

CULEBRA, C. Z., April 19, 1910.

CIRCULAR NO. 299-C:

The rate of $100 a month previously authorized in connection with the position of Laboratory Assistant is abolished, and a new rate of $105 a month for this position is hereby authorized.

GEO. W. GOETHALS, *Chairman.*

Preference to Contract European Laborers.

CULEBRA, C. Z., April 22, 1910.

HEADS OF DEPARTMENTS AND DIVISIONS:

I have received calls recently from a number of Spanish laborers who state that they were discharged on account of reduction of force, and that they are unable to find new employment. The Chief Quartermaster states that the situation is such that he is unable to place these men.

Paragraph 13 of the conditions governing the employment of Spanish laborers states as follows:

"It is calculated that the Canal work will last six to eight years, and in consequence the laborers will be able to secure work during such time as is convenient to them, but in accepting employment the laborers are not obligated to remain for any fixed time."

It will be noted from the above that contract laborers have been imported from Europe with the understanding that they would be given work for from six to eight years, and these contract men should be given the preference over noncontract men who have come to the Isthmus seeking employment, whenever possible. There is, apparently, a surplus of European laborers on the Isthmus at the present time, and in order to prevent a possibility of the force being demoralized by rumors being spread that there is no work on the Isthmus and that the Commission is not taking care of its contract men, it is desired that the contract men especially be given employment wherever profitable labor can be found for them.

It appears probable that in some instances contract men have been let go to make room for noncontract laborers at 16 cents per hour, and while the desire for economy is commendable it is not believed that this practice will be for the ultimate good of the work, as these 16-cent men will, soon after given employment, be entitled to a raise to 20 cents, and the Commission will, in the meantime, have provided ground for the belief on the part of the laborers that we are not keeping faith with them as contract men.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Cash Fare on Panama Railroad.

COLON, April 22, 1910.

Passengers will save themselves annoyance and expense by purchasing their tickets early. They should also provide, as far as possible, the correct change.

A. K. STONE,
Master of Transportation.

Approved:
J. A. SMITH, *General Superintendent.*

Sale of Scrap Lumber, Etc.

Sealed bids will be received at the office of the Depot Quartermaster, Isthmian Canal Commission, Mount Hope, C. Z., until 2 p. m., May 7, 1910, from parties desiring to purchase all or any part of 361 cords scrap car lumber, 499 chambers, 2 foot-power stapling machines, 1 paper cutting machine, 3 tablet presses and 46 boxes of staples for stapling machine (the last four items being printing office machinery). Location of all of this material will be furnished upon application to the office of the Depot Quartermaster. At the time and place above mentioned, bids will be opened in the presence of attending bidders, the Government reserving the right to reject any or all bids. Bids must be plainly marked "Proposals for purchase of lumber, chambers and machinery, to be opened May 7, 1910."

C. NIXON,
Depot Quartermaster.

CANAL WORK IN MARCH.

Monthly Report of the Chairman to the Secretary of War.

CULEBRA, C. Z., April 18, 1910.

The Honorable the Secretary of War,
Washington, D. C.

Sir: I have the honor to submit the following report of operations on the Isthmus for the month of March, 1910:

Department of Construction and Engineering.

The following table summarizes the principal items of construction work accomplished by the Atlantic, Central and Pacific Divisions during the month:

Item.	Unit.	Atlantic.	Central.	Pacific.	Total.
Work excavation, dry	Cubic yards	130,507	1,994,574	48,201	2,173,282
Work excavation, wet	Cubic yards	412,325	....	462,588	874,913
Total work excavation	Cubic yards	542,832	1,994,574	510,789	3,048,195
Plant excavation, dry	Cubic yards	....	....	5,336	5,336
Plant excavation, wet	Cubic yards	6,607	....	7,341	13,948
Total plant excavation	Cubic yards	6,607	....	12,677	19,284
Total Canal excavation	Cubic yards	549,439	1,994,574	523,466	3,067,479
Material placed in dams	Cubic yards	543,048	....	28,245	571,293
Concrete placed	Cubic yards	71,395	....	19,107	90,502
Explosives used	Tons (Gross)	76.92	184.90	30.28	292.10
Rock drilling	Feet	90,153	395,828	65,952	551,933
Track removed	Miles	....	19.75	....	19.75
New track laid	Miles	5.74	26.94	2.72	35.40
Rock crushed	Cubic yards	69,565	905	48,906	119,376
Cement used	Barrels	75,424	229	20,456	96,109
New roads built	Miles	0.13	1.60	....	1.73
Water mains laid	Feet	5,824	1,871	5,421	13,116
Sewers laid	Feet	160	987	3,848	4,995
New drains and ditches dug	Feet	....	125	4,450	4,575
Average daily force	....	8,977	8,664	4,958	22,599
Rainfall, average	Inches	7.27	3.41	2.16	3.78

Atlantic Division.

GATUN LOCKS.

Excavation—Shovel excavation during the month was carried on in the middle and lower chambers. The excavation for the entire locks proper, exclusive of the excavation for the approach walls, was 87 per cent completed. Channeling was commenced during the month in the middle lock, and 6,274 square feet were channeled in the culvert trenches.

Receiving and Issuing Material—The receipts of stone and sand during the month were satisfactory. There was a shortage in cement between March 10 and 17, which resulted in a decrease of about 3,000 yards in the concrete output for that week.

Mixing and Placing Plants—These plants were kept in satisfactory operation during the month.

Concrete Work—The concrete work for March showed an increase over February. The bucket measurement exceeded the place measurement by 1.1 per cent. The placing of large stone in the mass of concrete was commenced and continued throughout the month. The concrete work in the upper lock proper was 34 per cent completed, and for the entire work the concrete, exclusive of the approach walls, was approximately 13.3 per cent completed.

Power Plant—An accident at the power plant resulted in the burning out of two main generators, causing a partial suspension of operations in the Dam relay pumps. The generators were repaired and again placed in operation.

Iron and Steel Work—The sill of the emergency dam was completed during the month, and the sills for the upper guard gates were completed and the gate pintles set. The setting of the steel work for the upper pair of the operating gates was 25 per cent completed. The erection of four balanced cylindrical valves was completed, and the valves concreted in.

GATUN DAM.

Construction during the month increased the total fill by 543,048 cubic yards, making the total amount in place 6,869,195 cubic yards.

Hydraulic Fill—The dredges increased the hydraulic fill by 210,387 cubic yards, which made the total hydraulic fill in place at the close of the month 2,777,333 cubic yards.

Enrockments—The material received from the Central Division, the Locks and Spillway, amounting to 332,661 cubic yards, was placed on the north and south toes of the dam, making the total dry fill in place 4,681,862 cubic yards. The storage of hard rock on the New Gatun dump for paving the south slope of the dam was discontinued, the dump being turned over to the locks for the reception and reloading of hard rock from the Central Division, to be utilized as bulk swellers in the concrete.

GATUN SPILLWAY.

Excavation in the Spillway and the laying of concrete in the floor, side walls and curtain wall were continued and pushed to the utmost, in order to prepare for turning the Chagres River through the Spillway at the earliest practicable date.

Excavation—The material excavated amounted to 25,338 cubic yards, making the total at the close of the month 1,414,487 cubic yards.

Concrete—The amount of concrete laid was 9,797 cubic yards, making the total at the close of the month 69,981 cubic yards.

Spillway Bridge—The construction of a steel bridge on concrete piers at elevation +45, crossing the lower end of the Spillway, was commenced, and at the end of the month the foundations for all of the piers had been excavated, and approximately 600 yards, or one-half of the concrete required for the piers, had been placed. The 100-foot steel span in the low line of the Panama railroad was taken down, and a gang was kept at work scraping, repainting and reriveting the steel work.

Cut-off Levee—A project was approved covering the development of this levee into one of such height and extent as to protect the sea level portion of the canal and prevent water from the Chagres River from entering the prism, not only during the construction period, but thereafter. At the end of the month an elevation varying from +25 to +12 had been attained from the Spillway Hill to the Mindi Hill, a distance of one and one-half miles. A total of 10,285 cubic yards of material from the locks was placed in this levee during the month.

HARBOR AND CHANNEL SECTION.

Dry Excavation Below Sea Level, Mindi—There was no dry excavation at Mindi, but 4,443 cubic yards of crushed rock and 7,112 cubic yards of sand were unloaded at that point during the month.

Dredging, Ocean to Mindi—Four dredges removed from the canal prism 367,557 cubic yards of earth and 44,768 cubic yards of rock. In addition, the dredge *Chagres* removed 5,646 cubic yards of earth and 961 cubic yards of rock from the French canal. On March 28, 40 feet of water could be carried from zero to mile 2 plus 1,000 feet; 30 feet to mile 4 plus 1,300 feet; 20 feet to mile 5 plus 1,375 feet, the end of the cut.

PORTO BELLO.

At this point two eight-hour shifts were continued during the month. The maximum day's output was 3,615 cubic yards, and the total for the month, 69,565 cubic yards of crushed rock. The average hourly output for 364 hours and 33 minutes was 191 cubic yards, an increase of about 10 per cent over February.

Sand, Stone and Cement Service—In connection with this service, plant steamed about 11,881 miles, handled 722 barges, and carried about 3,786 passengers.

COLON BREAKWATERS.

Clearing was completed on seven acres, and partially completed on 14 acres. A small dock was built at Shelter Cove. Surveys for water supply were continued.

NOMBRE DE DIOS.

During the month 55 barge loads, containing 39,794 cubic yards of sand, were shipped to Cristobal.

MUNICIPAL ENGINEERING.

The usual work of maintenance of roads, waterworks and sewers, pumping stations, etc., was satisfactorily performed. The municipal engineering subdivision continued the construction of the Agua Clara reservoir, the dam being completed with the exception of the placing of a small amount of earth on the down-stream side. Approximately 10,000 cubic yards of earth were placed in the embankment during the month. Work was started on the spillway, and 351 cubic yards of concrete placed, completing the floor and part of the side walls.

Central Division.

During the month of March, the total amount of material excavated in the Central Division was 1,994,574 cubic yards, of which 711,908 cubic yards were classified as earth, and 1,282,666 cubic yards as rock. Of this quantity, 1,945,976 cubic yards were removed by steam shovels, 18,315 cubic yards by hand and scraper, and 30,283 cubic yards by contract; 1,977,012 cubic yards of the total were primary excavation for the Canal prism; 10,702 cubic yards were excavation of silt deposited in the completed section by floods, and 6,860 cubic yards were in the Obispo River Diversion.

The daily average number of steam shovels at work during the month was 53.92, and the total number of shovel days was 1,402, as compared with 51.35 shovels at work during the month of February, with 1,181 shovel days.

For comparison with the work done by steam shovels during the corresponding month of the previous year, the following table has been prepared:

Period.	Excavated by shovels.	Classification of material.		Av. No. of shovels at work.	W'k'g days.	Av. yards per shovel day.
		Rock.	Earth.			
1909:	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds*			*Cu. Yds*
Mar....	2,041,174	1,248,197	792,977	56.93	27	1,327.2
1910:						
Mar....	1,945,976	1,274,706	671,270	53.92	26	1,388.0

Rainfall at Empire: 1909, .21 ins.; 1910, 1.60 in.

The above table shows the average output per shovel day to be over 4½ per cent greater in March, 1910, than in the corresponding month of the previous year.

The total amount of material excavated from the prism in the Culebra section of the Central Division in March, 1910, was 1,502,868 cubic yards, being the highest record in that section for the month of March, the highest previous record having been in March, 1909, when 1,346,803 cubic yards were removed. The total excavation in the Canal prism for the entire Central Division in March, 1910, was also the largest recorded monthly excavation from the Canal prism.

The total amount of material to be excavated in order to complete the Canal in the Central Division when the United States assumed control was 89,794,493 cubic yards. Up to April 1, 1910, 54,280,138 cubic yards had been removed, leaving 35,514,355 cubic yards to be removed in order to complete all excavation in the Central Division. From these figures it will be seen that 60.45 per cent of all excavation in the Central Division had been completed up to the close of the month of March, and 39.55 per cent remained unfinished.

Considering the two sections which compose the Central Division, the excavation completed and that to be completed at the close of March was as follows:

CULEBRA SECTION.

	Cubic Yards.
Completed........................	45,624,605
To be completed..................	32,418,690

CHAGRES SECTION.

	Cubic Yards.
Completed........................	8,655,533
To be completed..................	3,096,665

From the above figures it will be seen that the Culebra section, locally known as the Culebra Cut, was 58.46 per cent completed, with 41.54 per cent to be completed; the Chagres section was 73.65 per cent completed, with 26.35 per cent to be completed.

During the month the following quantities of material were hauled from the Canal prism and dumped in the embankment for the new roadbed for the relocation of the Panama railroad: 144,385 cubic yards between Caimito and Gamboa; 67,662 cubic yards in the vicinity of Pedro Miguel. The total at the close of the month used for this purpose was 3,300,843 cubic yards. During the month 70,359 cubic yards of earth and 71,728 cubic yards of rock from the Culebra Cut were transported to Gatun for use in the construction of the dam, making the total at the close of the month for this purpose 360,303 cubic yards of earth, and 789,708 cubic yards of rock; 1,340 cubic yards of rock and earth were transported to Matachin, Juan Grande and Pier No. 11 for the Panama Railroad Company.

The output of the Empire portable rock crusher for the month was 321 cubic yards, and that of the Gorgona portable rock crusher 584 cubic yards. The rock crusher at Bas Obispo was not operated during the month; gravel secured from bars which formed during the floods of the Chagres River at Santa Cruz and Matachin being used for track ballast instead of crushed rock. There were 10,702 cubic yards of gravel secured from flood deposits at Matachin, of which 4,339 cubic yards were stored for future concrete work, making the amount stored for this purpose 30,181 cubic yards.

The daily average number of laborers at work on the whole division during the month was 7,716, the average number of gold men being 948.

Pacific Division.

DISTRICT NO. 1—LOCKS AND DAMS.

The total excavation during the month amounted to 53,537 cubic yards. At Pedro Miguel 22,860 cubic yards of dry filling were added to the prism of the west dam, making the total at the close of the month 204,536 cubic yards. At Miraflores, 5,385 cubic yards of dry filling were added to the toe; no hydraulic filling was added to the core of the west dam, the totals at the close of the month being 507,065 cubic yards and 138,587 cubic yards, respectively. During the month 10,000 cubic yards of dry filling were placed in backfill, increasing the total to 85,420 cubic yards.

Handling Plant—Berm crane No. 1 was placed in operation during the early part of March, and berm crane No. 2 was structurally completed. Chamber crane No. 1 in the east chamber was completed, and chamber crane No. 2 in the west chamber was put in operation the middle of the month. The operation of the handling plant was started with practically no interruptions. The plant promises to be entirely successful and to meet the contract requirements.

Miraflores Power House—The efficiency tests of the machinery at the Miraflores power house were made during the month, and in the main the requirements of the contract were met.

DISTRICT NO. 2—DREDGING.

The following table gives the output of the five dredges which were in operation during the month:

Dredge.	Tyoe.	Cubic Yards.		Remarks.
		Work.	Plant	
Marmot..	Ladder	114,112	7,341	Place measurement
Badger ..	Ladder	98,420	......	Place measurement
Mole.....	Ladder	50,227	......	Place measurement
Cardenas	Dipper	49,870	......	Place measurement
Culebra..	Suction	149,959	......	Scow measurement
Total		462,588	7,341	

Chamé Sand Excavation—The ladder dredge *Gopher* was employed during the entire month on sand excavation at Point Chamé, and removed approximately 31,900 cubic yards of sand.

Clearing Canal Line—One gang continued clearing and burning brush and grubbing stumps and trees from the canal prism between Balboa and Corozal, 125,000 square feet being cleared during the month.

Balboa—At Balboa the work of filling behind the docks was continued, and the third sand crane was placed in operation.

The excavation for the pumping station of the hydraulic excavating plant was completed, and the foundations for the pumps and boilers commenced.

DISTRICT NO. 3—MUNICIPAL WORK.

The maintenance and operation of the various municipal plants was continued satisfactorily.

Cocoli Pumping and Filtration Plant—One of the Cocoli pumps, and the filtration plant, were put into service March 31, after preliminary trials, drying out and adjusting motors and pump. The present arrangement is a temporary one preliminary to the completion of the settling plant. Since starting the pump, which pumps the water through the filters into the Rio Grande main near the power house at a rate of about 700 gallons a minute, an increase of from 10 to 20 pounds pressure is shown in the main.

In connection with the installation of the various divisions of the Cocoli pumping and filtration plant, work was performed on the 16 inch suction line from the lake, the pumping station, settling tanks, 10-inch discharge line, filter tanks and filter washing tank.

Rio Grande Reservoir—The venturi meter at the Rio Grande reservoir registered an output of 112,732,000 gallons of water during the month, or a daily average of 3,636,516 gallons. The elevation of the water in the reservoir on March 31, 1910, was 230.41.

Panama Improvements—During the month the work on the new improvements in the city of Panama was satisfactorily continued.

Ancon—The new corral buildings at Ancon were connected up with sewer, and work was started on the repair of roads in the Ancon hospital grounds.

DISTRICT NO. 4—ANCON QUARRY.

At Ancon quarry the work consisted of stripping, quarrying, and operating the crusher plant, 48,906 cubic yards of crushed stone being produced. The stripping already performed has exposed approximately 500,000 cubic yards of rock. The crusher plant has been worked continuously, but not to its full capacity, as the large motors which are to be substituted at the No. 6 crushers have not yet been received.

Relocation of Panama Railroad.

During the month 255,344 cubic yards of material were excavated, making the total excavation at the close of the month 3,196,016 cubic yards, and 426,517 cubic yards of material were placed in embankment, making the total at the close of the month 7,827,142 cubic yards.

During the month 4,924 linear feet of trestle were driven, and the work of constructing bridges and culverts was continued. A total of 8,670 linear feet of permanent track was laid, making the total at the close of the month 164,916 linear feet.

The total force averaged 3,057 men during the month.

Quartermaster's Department.

During the month material and supplies were purchased on the Isthmus to the value of $161,597.11, of which $41,772.11 was from local merchants, and the remainder from the the Panama Railroad Company. The estimated cost of material ordered in the United States during March, on requisitions, was $7,135,037.79, which included gate leaves for the Atlantic and Pacific locks estimated to cost $6,250,000, and a steel ladder dredge for the Pacific Division, estimated to cost $450,000. The amount of orders placed against annual contracts was $145,158.89, which is not included in the foregoing.

On March 31 there were 77 applications for family quarters on the No. 1 list, and 469 on the No. 2 list. Of these 546 applicants, 112 are occupying regular or nonhousekeeping quarters at stations other than those at which their applications are filed. Eliminating Gatun, there are only 25 applications on the No. 1 list, and 10 of these applicants are already occupying family quarters at other stations. There are 52 applicants on the No. 1 list at Gatun, 24 of whom will be provided for in April or early in May by the completion of six Type 14 four-family quarters now under construction at that station.

On March 23 the silver force of the Commission was 26,217, and the gold force 4,499, an increase in the silver force of 1,005, and a decrease in the gold force of 103, as compared with the same date in the previous month. The independent immigration of European laborers to the Isthmus continued; 5,278 were employed by the Commission on March 23, as against 4,586 on February 23, an increase of 692.

Subsistence Department.

The operation of the European laborers' messes, the colored laborers' kitchens and the line hotels showed a net profit of $7,262.20; the operation of the Hotel Tivoli showed a net profit of $4,406.39, and there was a net profit on restaurants and the penitentiary of $279.33. The net profit on subsistence operations was $11,947.92.

Department of Civil Administration.

COURTS.

The circuit courts of the Canal Zone disposed of 132 civil and 37 criminal cases, and the district courts of 90 civil and 646 criminal cases.

DIVISION OF POSTS, CUSTOMS AND REVENUES.

Money order sales for March amounted to $481,534.47, and the fees to $2,135.18 Receipts from stamp and card sales and newspaper postage aggregated $8,226.75. The total collections of the division were $22,695.74, and on account of court fines, costs and fees $3,329.85. The net revenues of the Zone were $22,736.39.

During the month 24 vessels entered at and 22 vessels cleared from the port of Ancon, and 24 vessels entered at and 21 cleared from the port of Cristobal.

DIVISION OF POLICE AND PRISONS.

The number of arrests during the month was 662, an increase of 106 as compared with February.

Nineteen convicts were committed to the penitentiary, and 12 were discharged, and on March 31st, 127 convicts were confined in the penitentiary. The cost of guarding and subsisting the convicts was $2,980, and the value of work performed by them was $1,942. The services of the convicts were utilized in the construction of the Empire-Paraiso road, and grading and filling in low ground at West Culebra.

DIVISION OF FIRE PROTECTION.

Thirty-five fires were reported during the month, the largest number during any one month since the organization of the division. The estimated value of property involved was $119,795.21, and the damage $345.82, of which $342.72 was to Government property.

DIVISION OF PUBLIC WORKS.

In the city of Panama the average daily consumption of water during the month was 1,005,806 gallons, and in Colon 726,455 gallons.

The usual inspection and maintenance work of this division was performed during the month.

DIVISION OF SCHOOLS.

The total enrollment in the white schools was 819, and the average daily attendance 713, or 87 per cent of the enrollment, and in the colored schools the total enrollment was 1,121, and the average daily attendance 610, or 54 per cent of the enrollment.

Department of Sanitation.

The average per thousand of deaths from all causes among employes in March, on an annual basis, was 8.91, as compared with 8.75 for February, 1910, and 8.76 for March, 1909. The number of deaths among employes during the month was 38, 23 being from disease and 15 from violence. The death rate per thousand on an assumed total population in the cities of Panama and Colon, and the Canal Zone, was 18.33, as against 17.50 for February, 1910, and 17.07 for March, 1909. On an annual basis the average per thousand among employes of malarial fever cases in hospitals in March was 125, as against 85 for February, 1910, and 182 for March, 1909. The admissions of employes to hospitals and sick camps, and the employes sick in quarters during the month were 3,666, as against 3,080 for February, 1910, and 3,248 for March, 1909. The average per thousand of admissions of employes to hospitals and sick camps, and employes sick in quarters was 72; 164 white, 42 colored. In February it was 61; 144 white, 36 colored. In March, 1909, it was 74; 164 white, 39 colored.

No case of yellow fever, plague or smallpox originated on the Isthmus during the month. There was one death from yellow fever at the Culebra Island Quarantine Station, the victim being a passenger taken from a Guayaquil boat at the Quarantine Station. The general health of the Canal Zone continued excellent, the increase of patients in hospitals being largely surgical.

Respectfully,

Geo. W. Goethals, *Chairman.*

Magic and Vaudeville Entertainmnet.

The Hill Magical Vaudeville Company, with Professor Erneste Kellermann, magician; and Miss Irene Bittell and M. Arture de Moore, musical impersonators, will give an entertainment under the auspicies of Empire Court I. O. P. K. at the Metropole Theater, Panama, on Saturday evening, April 30, and Sunday afternoon and evening, May 1. Tickets may be obtained from the West Coast Trading Company in Panama, up to Friday night, April 29, and on Saturday and Sunday at the theater.

Lyric Glee Club at Panama.

The Lyric Glee Club, which has been touring the United States for several years, is making a second trip to the Isthmus of Panama and will appear in the National Theater under the management of the Y. M. C. A. and the Ancon Entertainment Committee at 8.30 o'clock, Saturday night, May 7. The program will consist of quartet numbers, solos, duets, trios, both vocal and instrumental, readings and a costume sketch. Tickets will be on sale on and after April 30 at Hotel Tivoli and at the office of the District Physician, Ancon. A special train will be run from Paraiso stopping at Pedro Miguel and Corozal as follows: Leave Paraiso at 7.45 p. m., Pedro Miguel at 7.50, Corozal at 8.00, arriving at Panama at 8.10. Returning, the train will leave Panama at 11.30 p. m.

Memorial Window Unveiling.

The unveiling and dedication of the memorial window in St. Luke's Episcopal Church, Ancon, will take place on Sunday morning, May 8, at 10 o'clock. The window is designed for a memorial to all who die during the construction of the Canal. The Chairman and members of the Isthmian Canal Commission and the American and British Ministers will be invited to attend. At the close of a short service the window will be unveiled by Col. W. C. Gorgas, following which the Te Deum will be sung by the choir. A brief historical address will be delivered by Mr. Joseph Bucklin Bishop.

The design for the window, which was executed by the ecclesiastical firm of R. Geissler, New York, is from a painting by Schonheer, a German religious painter of the early part of the 19th century. The center of the triptych represents Christ as the central figure healing the sick who have been brought to him. On the left is a group of women and children kneeling, and on the right, a mother supporting her sick son. The scroll below bears the inscription "To the Glory of God and the memory of those who lost their lives during the construction of the Panama Canal." Spaces for the dates are left blank at either side. The window was purchased by subscriptions. The cost was $350.

Missing Men.

Information is requested concerning R. J. Ryley, an Englishman, about 35 years old, who is supposed to have been employed on the Isthmus within the last three years. His sister has requested that the Isthmian Canal Commission assist her in ascertaining his present whereabouts. Address the Acting Assistant to the Chairman, Culebra, C. Z.

Information is desired as to the whereabouts of Charles Bredford, who formerly worked in Gatun. Address Director of Posts, Ancon, C. Z.

Will Moore, who left San Francisco for Panama, is requested to write to George E. Wright of Gatun, C. Z.

Empire Baptists.

The annual business meeting of the First Baptist Church of Empire will be held at 3 p. m., May 1. Annual reports and election of officers. Observance of the Lord's Supper. Preaching at 7.30 p. m. All Baptists are urgently requested to be present. Everybody welcome.

J. C. Forman,
Church Clerk.

Empire, April 25, 1910.

Fancy Dress Ball.

A fancy dress ball will be held in the Commission clubhouse at Culebra on the night of May 4, for the benefit of the Church of the Holy Redeemer at Culebra The patronesses will be Mrs. C. A. Devol and Mrs. H. H. Rousseau. Tickets will cost one dollar each.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

The standing of the men in the local chess tournament is as follows:

	Won.	*Lost.*		*Won.*	*Lost.*
Vogel	4	0	Dubois	3	3
Wilson	4	0	Putnam	3	3
Warner	3	1	Morgan	2	3
Stearns	3	3	Hunter	0	8

The final scores of the local duck pin tournament recently finished are as follows:

	Won	*Lost.*		*Won.*	*Lost.*
Huson	19	3	Dakin	8	8
Fredrichs	18	4	Brown	8	17
Roberts	18	3	Stearns	9	12
Case	15	7	Ragan	5	12
Teague	15	7	Fish	5	12
Lamster	15	7	Hall	7	12
Palmer	14	8	Warner	6	11
Mason	13	9	Tupper	6	11
Mengel	12	10	McRaven	4	10
Herson	12	7	Fitzgerald	4	17

The final score gave places to the following: Huson for the greatest number of games won; Fredrichs, highest pin fall, 115, and also high average, 89.9; Huson, second high average, 89.6.

The Lyric Glee Club, which arrived on the Isthmus last Sunday will give a concert at the Culebra clubhouse on May 6.

EMPIRE.

The subject of Professor Carr's lecture on Isthmian history on Friday night of this week will be "The Panama railroad: the story of it's beginning and early history." Professor Carr, with the assistance of the members of the Empire Camera Club, has prepared a collection of lantern slides which will be used to illustrate his lectures on Isthmian history in the near future.

The basketball squad has elected Mr. D. Mullane as manager, and Mr. E. O. Smith, captain.

The Empire Boys defeated the Culebra Boys in a game of indoor baseball on Empire's floor last Saturday morning. Score 20 to 16.

The two local boys' clubs will meet for another bowling match next Saturday morning.

The standing of the men in the pool tournament is as follows:

	Won.	*Lost.*		*Won.*	*Lost.*
Pearson	4	0	Edwards	2	2
Earle	3	1	Schmahl	3	3
Davies	5	2	Rounsevelle	2	3
McKeever	5	2	Smith	1	2
Moeller	2	1	Sawtelle	1	3
McCulloch	2	1	McQuinsey	0	3
Brown	1	1	Swarzbach	0	3

The Indianapolis ten pin team of Cristobal won the return match with the Chicago team of Empire, last Saturday—Indianapolis, 749, 658, 792; Chicago, 745, 763, 701. These teams are now tied, and a match game will be played on neutral alleys in the near future.

GORGONA.

The ten pin match between Gorgona and Gatun last Saturday night, resulted in a victory for Gorgona —Gatun, 762, 849, 793; Gorgona, 819, 808, 852.

The physical work committee appointed at the monthly meeting of the council consists of S. G. Swanson, B. E. Culberson, M. R. Cuff, W. J. Wright, Fred King and Jess T. Hopkins.

The monthly song service held on Sunday night, April 24, was addressed by J. Dwight Stafford, secretary of the Y. M. C. A. at Camp Elliott.

The gymnasium is being placed in first-class condition. The bar will be moved from the alcove out in the large hall. The floor has been remarked for handball, basketball and indoor baseball, under the direction of the physical director. All men in town are invited to join the regular gymnasium classes, Monday and Thursday nights, at 8 o'clock. A special class for men who want to exercise from 5.15 to 6 p. m. on Mondays and Thursdays will be organized if there are enough men who desire it.

A morning Spanish class for women, and for men who work at night, will be organized by Mrs. Ellsworth, the Spanish teacher.

GATUN.

Interest in gymnasium work is gradually increasing. Physical Director Warr is introducing several new features such as gymnastic dancing, wrestling, punching bag work and handball. The new chest weights have arrived and are being put in place.

Dr. Vaughn has been appointed chairman of the physical department.

There will be a game of indoor baseball between the local team and Culebra on the Gatun floor on Saturday night of this week.

Twelve men have enrolled in the Spanish class which will be taught by Miss Frost. Mr. Fox will teach mechanical drawing, Mr. Chatfield mathematics, and Mr. Hertz stenography. The Y. M. C. A. will endeavor to procure a teacher for any branch of study in which there is a sufficient amount of interest shown.

Mr. E. W. Nick, graduate of a military school in the States, teaches military marching in the gymnasium on Monday nights.

Those interested in forming either a band or an orchestra in Gatun are requested to see Mr. Storm or the secretary.

The Glee Club has elected Mr. Leftwich president, and Mr. Lahm secretary. A director has not yet been selected. The first rehearsal of the club was held last Tuesday evening.

Maj. Harding was elected president and Mr. Timer secretary of the Chess and Checker Club last Friday night. The club will play local tournaments, meeting for the first time on Saturday night of this week.

The Literary and Debating Club meet this week with Mr. Wittrig as chairman. The Camera Club will also organize this week.

A service for men only will be held next Sunday in the clubhouse.

The results of the bowling matches last week were as follows:

April 18—All Stars	833	859	894
Gatun Reds	862	808	776
April 20—Plumb-Bobs	602	588	652
Triangles	575	628	682
April 21—Angels	708	632	720
Devils	654	708	778

A gold medal will be given for the highest individual game rolled during the month of May. The 20 men having the highest average for May will be divided into four teams and will play for a trophy. Six hundred games were rolled on the clubhouse alleys during the week ending April 23.

The games scheduled for this week are: House 94 vs. House 95; All Stars vs. Gatun Reds.

In the pool match between DePoorter of Gatun and Wehmeier of Cristobal last Saturday night, the former scored 150 to the latter's 95. McLean won the local pool tournament and not Hughes, as was shown in THE CANAL RECORD last week.

CRISTOBAL.

The minstrel show given at the Cristobal clubhouse on Friday night, April 22, was very successful. The performance was so popular that a repetition was given on Tuesday night of this week.

A pool tournament, class A and B, will start next week.

A men's meeting for Sunday, April 30, was postponed unavoidably, but will be held as usual next Sunday.

The Lyric Glee Club will give a concert at the clubhouse on Saturday night of this week. Reserved seats will be placed on sale Wednesday, April 28.

PORTO BELLO.

The smoker given Wednesday night, April 20, was a success. The program consisted of pool, billiard and chess contests, basketball game between the Midgets and Giants, and gymnasium feats.

The Lyric Glee Club will give a concert on Friday night, April 29.

The following committees have been appointed:

Membership—Mr. E. J. Lewis, chairman, C. E. Bradley, Cecil Barker, H. B. Hite, R. M. Simmons, W. S. Thomson.

Entertainment—Mr. A. J. Sweet, chairman, M. D. Smith, C. R. Ray.

Chess—Capt. H. W. Stickle, chairman, E. B. Pflueger, A. C. Cornelison.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Gorgona, C. Z., on Sunday, May 1, 1910, at 6 p. m.

A concert will be given at Hotel Tivoli, Ancon, on Sunday, May 8, at 7.30 p. m.

Proposals for Erection of Buildings on Toro Point.

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, C. Z., until 3 p. m., May 2, 1910, and then opened, for the erection by contract of one type-27, two type-18, and three type-14 houses at Toro Point. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $500 when the contract is signed.

C. A. DEVOL,
Chief Quartermaster.

LOST—On Saturday morning, April 16, between House 84 and Salvation Army barracks, and building No. 2, Cristobal, a small gold locket containing one picture and having the Masonic emblem on the outside. Finder please return to W. C. Dugan, building No. 2, Cristobal and receive suitable reward.

LOST—Gold brooch set with a pearl between two emeralds, near railroad station, Empire. Reward if returned to Mrs. A. C. MacNair, house 154-B, or agent, Empire.

BASEBALL.

ATLANTIC LEAGUE.

RESULTS OF GAMES, APRIL 24.

Commissary-Subsistence, 8; Panama Railroad, 0.
Colon, 8; Civil Administration, 7.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*P.*	*W.*	*L.*	*Pc.*
Com-Sub	12	10	2	.833	Civ. Adm	11	4	7	.363
P. R. R	11	5	6	.454	Colon	10	3	7	.300

SCHEDULE FOR MAY 1.

The Colon-Commissary tie-game played on April 10, will be played off Sunday morning, May 1, at 10 o'clock.

Panama Railroad vs. Civil Administration.

C.-S.	AB.	H.	PO.	A.	E.	P. R. R.	AB.	H.	PO.	A.	E.
Smith, ss, rf	4	2	0	0	0	Osborne, cf	4	0	1	0	0
Lindberg, lf	2	1	0	0	0	Bryan, 2b	4	1	3	2	1
Curtis, 3b, ss	3	2	0	3	0	Cushing, 1b	3	1	5	0	1
McCusty, c	4	0	10	1	0	Lewis, p	2	0	1	2	0
McGinniss, cf	4	0	0	0	0	King, ss	3	0	0	1	1
Reese, 1b	4	1	9	1	1	Heberling, c	3	2	8	1	0
Muggleton, 2b	3	0	1	2	2	Dockery, 3b	2	0	0	1	3
Beard, rf, 3b	3	1	1	3	0	Davis, lf	3	0	2	0	0
Simmons, p	3	0	0	1	0	Hiller, rf	3	0	0	0	0
Totals	30	7	21	11	3	Totals	27	4	20*	7	6

*McGinniss out for interference.

Commissary-Subsistence...... 1 0 4 2 0 0 1—8
Panama Railroad.............. 0 0 0 0 0 0 0—0

Runs—C.-S.: Smith (2), Lindberg (3), Curtis, McCusty, Beard. Runs earned—C.-S., 1. Two base hits—Beard, Lindberg. Wild pitch—Lewis. First base on errors—C.-S., 3; P. R. R., 3. Stolen bases—Smith, Lindberg, Curtis. Bases on balls—Off Simmons, 3; off Lewis, 3. Struck out—By Simmons, 8; by Lewis, 8. Passed balls—McCusty, (2), Heberling. Left on bases—P. R. R., 9; C.-S., 4. Double play—Muggleton to Reese to McCusty. Umpire—Rohr. Time of game—1.30. Scorer—Rennard.

Colon.	AB.	H.	PO.	A.	E	C. A.	AB.	H.	PO.	A.	E
Weber, 3b	4	2	2	0	0	Morrell, lf	4	2	0	0	0
Brady, rf	3	0	0	0	0	Edwards, ss, 1b	4	2	4	0	1
Bradley, 2b	1	0	1	1	0	Fechtig, c, cf	3	1	4	0	3
Herring, c	4	2	5	1	0	Fleichman, 3b	4	2	0	2	0
Souders, lf	4	1	0	1	0	Rex, 1b, c	4	0	8	0	0
Cleary, 2b, rf	4	1	2	1	1	M'Keever, cf, ss	4	0	2	0	1
Hope, cf	4	2	1	0	0	Major, 2b	4	2	1	2	1
Murray, ss	3	1	2	2	1	Blaine, rf	4	2	0	0	0
Stevens, 1b	4	1	8	0	2	Russell, p	4	3	2	2	0
Goree, p	4	0	0	4	0	Totals	35	14	21	6	6
Totals	35	10	21	10	4						

Colon.................................. 0 1 4 2 0 0 1—8
Civil Administration.......... 1 1 2 0 0 1 2—7

Runs—Colon: Weber (2), Herring (2), Souders (2), Hope (2): C. A.: Morrell, Edwards, Fleichman, Rex, Major, Blaine (2). Runs earned—Colon, 1; C. A., 2. Two base hits—Herring, Cleary, Major. Sacrifice hit—Edwards. First base on errors—Colon, 5; C. A., 3. Stolen bases—Weber, Hope (3), Edwards, Fechtig. Bases on balls—Off Russell, 1; off Goree, 2. Struck out—By Russell, 7 by Goree, 4; Passed balls—Fechtig, Herring. Left on bases—Colon, 7; C. A., 11. Double plays—Fleichman, Major and Rex. Umpire—Rohr. Time of game—1.20. Scorer—Rennard.

ISTHMIAN LEAGUE.

RESULTS OF GAMES, APRIL 24.

Empire, 10; Marines, 3.

Gorgona, 9; Ancon, 0 (Game forfeited to Gorgona on account of Ancon refusing to abide by decision of umpire Foster in the third inning.)

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*P.*	*W.*	*L.*	*Pc.*
Empire	20	15	5	.750	Ancon	19	7	12	.367
Gorgona	22	15	7	.681	Marines	23	5	18	.213

SCHEDULE FOR MAY 1.

Empire at Ancon.
Marines at Gorgona.

Marines.	AB.	H.	PO.	A.	E.	Empire.	AB.	H.	PO.	A.	E
McCabe, c	3	1	5	2	2	Dixon, ss	3	2	1	0	0
Scarff, 2b	3	0	4	1	0	Thompson, 2b	4	0	0	1	0
Field, 3b	3	0	1	0	3	Markley, c	1	0	9	3	0
Burns, cf, p	3	0	1	0	0	Bell, 1b	2	1	10	0	1
Munsen, 1b	3	0	3	1	0	Fluharty, lf	2	2	0	0	0
Glixkie, lf	0	0	0	0	0	Murphy, cf	3	1	0	0	0
McDowall, ss	3	0	1	0	0	Toone, 3b	3	2	1	2	3
McKelvie, rf	3	0	1	0	0	McCullough, rf	2	0	0	1	0
Shepard, p, cf	2	1	1	3	1	Marshall, p	2	0	0	6	1
Silke, lf	3	1	0	0	0	Totals	22	8	21	12	5
Totals	26	3	17*	7	6						

*Marshall out for failing to touch second base.

Marines........................ 0 1 0 0 1 0 1— 3
Empire.......................... 6 1 2 0 0 1 x—10

Runs—Marines: McDowall, Shepard, Silke; Empire: Dixon, Thompson (2), Markley, Bell, Fluharty (2), Murphy (2), McCullough. Two base hits—Silke, McCabe, Dixon (2), Fluharty. Sacrifice hits—Scarff, Markley. Sacrifice fly—Dixon. Stolen bases—McKelvie, Toone. Bases on balls—Off Marshall, 2, off Burns, 2; off Shepard, 2 Struck out—By Shepard, 4; by Burns, 1; by Marshall, 8. Passed balls—Markley, McCabe. Left on bases—Marines, 5; Empire, 1. Double play—Scarff (unassisted). Umpire—Hill. Time of game—1.50 Scorer—L. P. Worrall.

COMMISSARY DEPARTMENT.

The hours during which commissariesare open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning April 27.

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (5 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (5 to 8 pounds)	per lb	24
Chops	per lb	26
Cutlets	per lb	26
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	2
Soup	per lb	5
Stew	per lb	9
Corned	per lb., 12, 14,	16
Chuck roast	per lb	13
Pot roast	per lb	15
Rib-roast, second cut (not under 3½ pounds)	per lb	18
Rib-roast, first cut (not under 3 pounds)	per lb	20
Sirloin roast	per lb	21
Rump roast	per lb	21
Porterhouse roast	per lb	21
Steak, Chuck	per lb	14
Round	per lb	15
Rib	per lb	20
Sirloin	per lb	21
Porterhouse	per lb	21
Rump	per lb	21
Tenderloin	per lb	24

MISCELLANEOUS.

Livers—Beef	per lb	8
Calf	each	60
Half	each	30
Sausage—Pork	per lb	17
Bologna	per lb	14
Frankfurter	per lb	14
Leberwurst	per lb	14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	25
Oysters, in 1-quart kegs	keg	55
Oysters, in ½-gallon kegs	keg	90
Eggs, fresh	dozen	30

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, large	each	1.50
medium	each	1.30
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese	each	2.50
Pheasants	each 70,	1.00
Partridges	each	50
Grouse	each	85

CURED AND PICKLED MEATS.

Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Sugar cured	per lb	23½
Sugar-cured, sliced	per lb	27
Half, for boiling	per lb	24½
Boiled	per lb	†28
Hocks	per lb	8
Bacon—Breakfast, whole piece	per lb	28
Breakfast, sliced	per lb	29
Beef, salt, family	per lb	9
Pork, salt, family	per lb	†18
Ox tongues	each	80
Pigs' feet	per lb	†10
tongues	per lb	16
Mutton, mess	per lb	7

DAIRY PRODUCTS.

Butter—Creamery special	per lb	40
Cheese—Roquefort	per lb	38
Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	26
Edam	each	1.00
Neufchatel	each	6
Gouda	per lb	34
Milk, Briarcliff	bottle	**25

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	8
Lettuce	per hd	*8, 12, 16
Cucumbers	per lb	12
Potatoes, white,	per lb	[illegible]
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	3½
Tomatoes	per lb	8
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	3
Cabbage	per lb	†4
Rhubarb	per lb	*7
Lemons	dozen	24
Apples	per lb	6
Tangerines	each	2
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4
Pineapples	each	18

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, April 23, 1910.

Day and Date.	Stations.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Canal.)	Gatun (W. D.)
Height of low water above sea-level, ft..	125	92	46	1	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, April 17...	129.0	95.3	48.5	6.2	3.3	....
Monday, April 18..	127.6	94.3	47.6	5.2	2.8	....
Tuesday, April 19..	127.7	94.4	47.8	6.5	4.2	....
Wed'esday, April 20	127.0	93.9	47.3	6.4	4.2	....
Thursday, April 21.	133.0	98.0	52.5	7.3	4.6	....
Friday, April 22...	130.6	97.5	52.5	11.4	7.1	....
Saturday, April 33.	127.3	94.4	47.6	9.1	7.6	....

Misdirected Letters.

Division of Posts, Customs and Revenues,
Ancon, C. Z., April 27, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts and may be secured upon request of the addressee:

Alfee, George
Billing, Harry
Brashears, George M.
Chian, Niss Niana
Coyne, Michael
Cutler, H. B.
Douglas, Mrs. J. W.
Emery, Ross
Fraser, John
Griffin, Philip
Hall, Louis A.
Hanna, John
Hillan, F. P.
Hubbard, John
Kennedy, John L.
Liney, J. J.
Lofgren, W. E.
Martin, L. D.
McAllister, Patrick
McEwen, Jno.
McNeil, Mrs. Stella
Putnam, E. A.
Reese, Charles
Scales, Fred W.
Smith, Wm. J.
Valtz, Walter

Supplies for Canal Work.

The following steamers, with supplies for the Isthmian Canal Commission, arrived at the ports of Cristobal and Colon, during the week ending April 23, 1910:

Ancon, April 17, from New York, with 36,050 barrels cement for Atlantic Division; 66,000 bags cement for Pacific Division; 12 tons rubber hose for stock.

Panama, April 18, from New York, with 34 cases shoes for District Warden, Culebra; 20 tons dredge chain, and 109 cases electric fuze for Atlantic Division; 103 cases medical supplies for Sanitary Department; 26 meat blocks for Superintendent of Public Works; 5,250 barrels cement for Atlantic Division; 66 cases fuzes for Central Division; 500 cases linseed oil, and 56 tons steel bars, etc. for stock; and a miscellaneous cargo consisting of 6,814 packages, weighing 2,[illegible]59 tons.

Mercian, April 18, from Liverpool, with 145 barrels carbolic acid, and 60 barrels creosote oil for stock.

Turrialba, April 21, from New Orleans, with 20,560 feet Y. P. lumber for Pacific Division; 7,344 feet W. O. lumber, 10 tons valves, 1,023 Y. P. cross-ties, 300 cases oil lamps, and 24 tons hay for stock.

Santa Marta, April 22, from New York, with 68 tons locomotive crane for Panama railroad shops, Cristobal; 300 barrels coal tar, and 10 tons oats for stock.

Contract Building.

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., May 6, 1910, and then opened, for the erection by contract of a type-27 house at Ancon. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $150 when the contract is signed.

C. A. Devol, *Chief Quartermaster.*

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Colon	P. R. R.	Monday	Apr. 25
Advance	P. R. R.	Saturday	Apr. 30
Panama	P. R. R.	Friday	May 6
Allianca	P. R. R.	Thursday	May 12
Colon	P. R. R.	Wednesday	May 18
Advance	P. R. R.	Tuesday	May 24
Panama	P. R. R.	Tuesday	May 31
Allianca	P. R. R.	Monday	June 6
Colon	P. R. R.	Monday	June 13
Advance	P. R. R.	Saturday	June 18
Panama	P. R. R.	Friday	June 24
Allianca	P. R. R.	Thursday	June 30
Colon	P. R. R.	Thursday	July 7
Advance	P. R. R.	Tuesday	July 12
Panama	P. R. R.	Monday	July 18
Allianca	P. R. R.	Saturday	July 23
Colon	P. R. R.	Friday	July 29

CRISTOBAL TO NEW YORK.

Allianca	P. R. R.	Saturday	Apr 30
Colon	P. R. R.	Friday	May 6
Advance	P. R. R.	Thursday	May 12
Panama	P. R. R.	Wednesday	May 18
Allianca	P. R. R.	Wednesday	May 25
Colon	P. R. R.	Tuesday	May 31
Advance	P. R. R.	Monday	June 6
Panama	P. R. R.	Sunday	June 12
Allianca	P. R. R.	Saturday	June 18
Colon	P. R. R.	Saturday	June 52
Advance	P. R. R.	Thursday	June 30
Panama	P. R. R.	Wednesday	July 6
Allianca	P. R. R.	Tuesday	July 12
Colon	P. R. R.	Tuesday	July 19
Advance	P. R. R.	Saturday	July 23
Panama	P. R. R.	Saturday	July 30
Allianca	P. R. R.	Thursday	Aug. 4
Colon	P. R. R.	Wednesday	Aug. 10

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

NEW YORK TO COLON.

Metapan	U. F. C.	Thursday	Apr. 21
Prinz Joachim	H.-A	Saturday	Apr. 23
Zacapa	U. F. C.	Thursday	Apr. 28
Atrato	R.-M.	Saturday	Apr. 30
Almirante	U. F. C.	Thursday	May 5
Prinz Aug. Wilhelm	H.-A	Saturday	May 7
Santa Marta	U. F. C.	Thursday	May 12
Metapan	U. F. C.	Thursday	May 19
Prinz Joachim	H.-A	Saturday	May 21
Zacapa	U. F. C.	Thursday	May 26
Prinz Aug. Wilhelm	H.-A	Saturday	June 4

COLON TO NEW YORK.

Santa Marta	U. F. C.	Friday	Apr. 29
Metapan	U. F. C.	Friday	May 6
Prinz Joachim	H.-A	Tuesday	May 10
Zacapa	U. F. C.	Friday	May 13
Almirante	U. F. C.	Friday	May 20
Prinz Aug. Wilhelm	H.-A	Tuesday	May 24
Santa Marta	U. F. C.	Friday	May 27

NEW ORLEANS TO COLON.

Abangarez	U.F.C.	Saturday	Apr. 23
Atenas	U.F.C.	Saturday	Apr. 30
Turrialba	U.F.C.	Saturday	May 7

COLON TO NEW ORLEANS.

Turrialba	U.F.C.	Thursday	Apr. 28
Abangarez	U.F.C.	Thursday	May 5
Atenas	U.F.C.	Thursday	May 12

COLON TO BARBADOS, CALLING AT TRINIDAD.

Clyde	R.-M.	Tuesday	Apr. 26

Hamburg-American steamers leave for New York at 10 a. m., and for Port Limon every Wednesday at 2 p. m.

Royal Mail steamers leave for New York early in the morning and passengers should be on board the night before.

United Fruit Company ships for New Orleans leave at 3 p. m., and for New York at 10 a. m.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, MAY 4, 1910. No. 36.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Clearing Between Balboa and Corozal.

Clearing in the Canal channel between Balboa and Corozal is practically completed, the only work yet to be done being the removal of a small number of stumps and roots. The cleared channel is 850 feet wide and about 2½ miles long. Through about two miles of this the old French canal and Rio Grande run, reducing the amount of clearing. The material removed was largely mangrove trees, which although small in girth and deciduous in growth were very close together. Much of the land is under water at high tide and therefore the clearing gangs worked a large part of the time in soft mud. Drill gangs are preparing the rock that underlies the mud for the dredges.

Unloading Rock and Sand at Night.

By the use of electric light on the rock and sand storage piles and the unloading cableways at Gatun docks, it is now possible to unload barges at night. Formerly the rock and sand barges that were brought to Gatun late in the afternoon could not be unloaded until the next day, and thus the transportation service was hampered by having barges lying idle many hours each week. The work of installing the lighting plant was finished last week, and barges are now unloaded whenever they reach Gatun.

There are one single and two duplex cableways for unloading sand and rock, and one searchlight for each cable has been placed on the tail towers, casting light along the cables, on the barges at the dock, and over the storage piles. The searchlights have 18-inch standard Navy projectors, and are operated by a motorgenerator which changes the 600-volt current supplied from the power plant to a 125-volt current for the lamps. The lights are controlled from the head or operating towers. In addition to the searchlights strings of flaming arc lights have been stretched from the head towers to the tail towers, four lamps for each tower. These lamps form their arc at the apex of an acute angle made by the carbons, and therefore throw a light equally in all directions. On this account, although they are strung below the level of the cables they illuminate them as well as the storage piles beneath.

The operating towers of the unloading plant look directly toward the sun during the forenoon, and the constant attention required while the unloading is in progress makes the work hard on the eyes of the operators. Because of this there is a decided preference among the men for the night work.

Rock Excavation at Pacific Entrance.

Three methods are in use for shattering rock under water in the Pacific entrance to the Canal, preparatory to taking it out by dredges. Two of these, the use of the rock breaker and the drill barge and dynamite, are still in the experimental stage. The rock breaker *Vulcan* crushes the rock by letting a steel ram weighing 15 to 19 tons fall upon it. This operation is repeated until an area sufficiently large for a ladder dredge to work over has been crushed. The pieces of rock as dredged vary in size from one to 12 inches.

The drill barge has three 4-inch drills, two of which are now in operation, while the third is about ready to begin work. It is drilling in hard trap rock, and is doing excellent work. In one hour last week it put down a hole 20 feet deep with the bottom 60 feet below the water surface at high tide. The holes are charged with dynamite, which, when exploded, shatters the rock into pieces small enough for the dredges to handle. In order to insure cleaning the bottom of the channel to 45 feet below sea level it is necessary to dredge to minus 50 feet over the areas shattered by dynamite. The rock crusher leaves a clean surface, although several complete operations are necessary before the required depth is reached. A comparison of the relative merits of the two methods will be possible after the drill barge has been in full operation for several weeks.

The third method is to blast the rock in the dry and then remove it by dredge. This is practically the same as the method used successfully at the Atlantic entrance. Between Corozal and Balboa the prism of the Canal includes for a part of the distance the old French canal and the Rio Grande; but the greater part of the excavation is through low lying land, much of which is inundated at high tide. On this low land churn drills are at work making holes 4 inches in diameter down to 50 feet below mean tide, an average of 21 feet of which is in hard rock. The holes are sunk on 15-foot centers, and a small charge of dynamite is exploded in the bottom of each in order to make a chamber into which the main charge of dynamite is tamped. This "springing" of the holes was not done on the Atlantic entrance work, where it was found that sufficient dynamite could be packed into the holes to disrupt the rock without providing a chamber at the bottom. Usually 20 holes charged with about 8,000 pounds of dynamite are set off at one time, the current being supplied by live wire from the electric plant at Balboa, and the holes being wired in series. The rock is broken into pieces that can be handled by the dipper dredge and ladder dredges without straining.

Camacho Reservoir and Spillway.

The work of rebuilding a part of the spillway of the dam which impounds the water in Camacho reservoir has been completed. The spillway is built in three steps, and at the bottom of this flight the water is turned at a right angle into the old bed of the river. During the heavy rains of 1909 the water wore away the ground at the foot of the steps, and otherwise washed out the earth of the spillway. The rebuilding consisted of laying a concrete floor over the steps, and building a masonry wall along the foot, so as to retain the water and keep it from seeping under the spillway. The work involved building 600 square yards of rip-rap paving, 94 cubic yards of rubble wall, and placing 348 cubic yards of concrete.

The water in Camacho reservoir is now at elevation 353.7 feet above sea level, which is 10 feet higher than it was at this time last year. At this elevation there are available 140,973,000 gallons. Because of the exceptional amount of water in the reservoir during the dry season, it has not been necessary to pump from the Mandinga River, in order to supply Empire and the nearby towns.

Clearing in Gatun Lake Completed.

The clearing of the ship channel through Gatun Lake, between Gatun and the entrance of Culebra Cut has been completed, excepting such as will be done hereafter in connection with the excavation of various small points of land that jut into the channel above the 40 foot elevation. The contractor for this work finished his part of it on April 23, after having removed the trees and brush from 855 acres. The portion cleared extends from the mouth of the Trinidad River to Tabernilla, not including about two miles of the channel near Bohio, where contract excavation is in progress. The price paid was $35.60 an acre. Two days after the work was finished the water of the lake backed up and covered part of the land on which the clearing had been in progress only a week before.

Under the requirements of the contract it was necessary to cut the brush and trees and remove them from the channel, because if they were allowed to lie on the ground through a rainy season they might be carried down the river and cause damage to the trestles that span the Chagres at Gatun. On account of the approach of the rainy season

NOTES OF PROGRESS.

(*Continued.*)

it was impossible to utilize a number of hardwood trees of not less than 5 feet in diameter that would have made good lumber, and therefore they were burned. Some of the wood was burned into charcoal, and 4,000 bags of about 40 pounds each were procured for the local market. Seventeen native canoes were made out of espave, a native hardwood.

Laborers of a kind not in general use on the Canal were utilized during the early months of the clearing work—Cholos, almost pure blood Indians from the interior of Panama. Three hundred of them were brought down to the Canal Zone from near Chorrera and Penonomé. They are farmers who cultivate small patches in the jungle and on hillsides, and if the alcade of their respective districts is convinced that they will be well treated and so assures them, their services are always available during the wet season. They use their own machete, and both with that and with an ax they proved themselves superior to any other laborers employed. Most of them returned to their farms at the beginning of the dry season, and West Indian negroes were employed thereafter. The negro works more rapidly for a few hours than the Cholo, but for steady work all day the latter is the better laborer.

Floating Pile Driver.

A floating pile driver for work in the Pacific entrance is under construction at the Balboa marine shops, and the hull will be launched within a few days. A 55-foot lead for the driver will be erected on one end of the hull, and a derrick with a capacity of about 7-tons will be built on the other end. The piles will be driven by a steam piston hammer. A high pressure pump will be installed for the purpose of forcing water through a hose attached to the end of a pile for use in sinking it in material where this method is more economical than driving.

Tests of Fuel Oil.

Regular tests of the fuel oil furnished to the Commission and Panama Railroad Company by the Union Oil Company have been begun, to ascertain if there is over 2 per cent of water and sediment in it. The contract under which the oil is furnished provides that it will not contain over 2 per cent of water and sediment, and if the tests show that it is wanting in this respect a claim for reduction in price will be made in proportion to the excess of nonheat-producing material. At present about 50,000 barrels are used monthly at a cost of $1.10 a barrel. If over 60,000 barrels are used the price per additional barrel will be $1.35.

The pipes from the main to the tanks have been tapped near the tank valve and a goose neck spigot has been inserted, from which samples are drawn every half hour while the tank is being filled. The samples are taken by a representative of the Commission in the presence of a representative of the Union Oil Company, and are such in quantity that the total amount taken during the filling is not less than one gallon. The can in which the samples are taken is clean and dry, and one fourth of the total amount must be delivered to a representative of the Oil Company if he requests it. A two quart portion of the sample in a thoroughly clean and tight bottle or can is delivered to the Mechanical Engineer at Gorgona Shops. At present the gasolene-benzol (commercial benzol) test is used as standard, but if the chemist to whom the Commission has referred the matter so advises it is likely that the gasolene-carbondisulphide test will be made the standard.

Arrangements will soon be completed whereby practically all the oil sold the Commission will be sampled and tested at one point. A sampling connection is to be made in the Union Oil Company's main line at Balboa and a continuous stream of oil will flow into a large sampling tank during the time any tanks along the line are filling. To obtain an absolutely fair sample, the oil in the large sampling tank will be thoroughly agitated at the end of a day's run and enough oil drawn off for testing purposes. The Commission will base its claims for rebate on all oil filled into storage tanks on the results of the tests made on samples taken from the main line.

Extended tests may follow the preliminary tests, and to this end an Atwater calorimeter and accessories, for determining the heat units per pound of oil, have been ordered.

Charity Ball for Railway Men's Home.

A charity ball was held at the Hotel Tivoli in Ancon on the night of April 30 for the benefit of the Home for Aged and Disabled Railroad Employes of the United States, which was opened at Highland Park, Ill., in April.

Both the drawing room and dining room of the hotel were used by the dancers, an orchestra in each room furnishing music. A special train from Colon brought people from that city and the Canal Zone villages and took them back to their homes after the dance. It is estimated that $2,500 were made by the sale of tickets and by subscriptions.

Red Cross Benefit Baseball Game.

Baseball teams selected from the members of the University Club of Panama and the Strangers' Club of Colon will play a game of ball at Ancon park on Sunday morning, May 8. at 10 o'clock, for the benefit of the Canal Zone Branch of the Red Cross.

Visiting Hours at Colon Hospital.

The following changes have been made in the visiting hours at Colon Hospital in order that they may conform with the hospital daily professional and administrative routine, effective May 15:

Monday, Wednesday, and Saturday, 2 p. m. to 4 p. m.

Sunday, 7.30 a. m. to 11.30 a. m.; 2 p. m. to 4.30 p. m.

Rock Crushing at Porto Bello.

DATE.	Hours worked.	Cubic Yards.
April 18	11:15	3,155
April 19	11:55	3,595
April 20	10:25	2,940
April 21	9:35	2,625
April 22	11:15	3,025
April 23	11:15	3,070
Total	65:40	18,410
April 25	....	2,190
April 26	....	1,870
April 27	....	3,065
April 28	....	3,140
April 29	....	3,075
April 30	....	2,935
Total	....	16,275

CONCRETE IN THE LOCKS.

Progress at Gatun and Pedro Miguel.

A statement of the concrete laid in Gatun Locks in the two weeks ending April 30, follows:

	CUBIC YARDS.		
	Rock.	Concrete	Total.
April 18	80	2,173	2,253
April 19	140	2,485	2,625
April 20	44	2,350	2,394
April 21	....	2,276	2,276
April 22	4	2,421	2,425
April 23	49	2,513	2,562
Total	317	14,218	14,535
April 25	40	2,389	2,429
April 26	37	1,658	1,695
April 27	46	2,233	2,279
April 28	72	2,442	2,514
April 29	65	2,312	2,377
April 30	87	2,442	2,529
Total	347	13,476	13,823
Previously reported	....	....	321,771
Grand total	....	....	350,129

The amount laid at Pedro Miguel Locks in the week ending April 30, follows:

	CUBIC YARDS.		
	Large stone.	Concrete.	Total.
April 25	....	1,031½	1,031½
April 26	....	1,048½	1,048½
April 27	48	1,020½	1,068½
April 28	10	1,027	1,037
April 29	....	1,168½	1,168½
April 30	40	1,110	1,150
Total	98	6,406	6,504
Previously reported	653	101,716	102,369
Grand total	751	108,122	108,873

Rainfall, April 1 to 30, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.17	5	3.71
Balboa	1.16	25	3.63
Miraflores	1.04	16	5.15
Pedro Miguel	1.23	24	5.16
Rio Grande	.92	16	5.36
Central Section—			
Culebra	.98	21	5.35
Camacho	1.56	22	6.92
Empire	.91	6	4.24
Gamboa	.87	29	3.85
Alhajuela	.97	21	2.99
El Vigia	.58	25	2.33
Gorgona	1.33	7	5.79
San Pablo	1.00	25	6.52
Tabernilla	1.21	21	6.29
Bohio	1.52	21	6.45
Trinidad	1.22	6	9.28
Atlantic Section—			
Gatun	.76	16	4.97
Brazos Brook	.71	25	5.59
Cristobal	96	21	3.30

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, April 30, 1910.

DAY AND DATE.	STATIONS.					
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Lake.)	Gatun (W. D.)
Height of low water above sea-level, ft..	125	92	46	0	0	0
Maximum height ab. mean sea-level, feet:						
Sunday, April 24	128.4	94.6	47.3	8.7	8.0	....
Monday, April 25	136.6	100.2	55.2	10.5	10.9	....
Tuesday, April 26	133.9	98.7	55.2	16.4	13.6	....
Wed'esday, April 27	129.6	96.2	50.7	14.9	14.3	....
Thursday, April 28.	128.3	94.8	48.3	14.9	14.7	....
Friday, April 29	127.4	94.4	47.6	15.1	14.9	....
Saturday, April 30.	128.4	94.9	48.1	15.1	15.2	....

GATUN LOCKS EXCAVATION.

Nearly 80 Per Cent of Digging Completed—Suction Dredge for Lower Chamber.

Excavation in the upper chamber of Gatun Locks is finished, that in the middle chamber is almost done, and in the lower chamber steam shovel work is in progress and a plan for the completion of the digging has been approved. The total amount to be excavated from the locks is about 5,600,000 cubic yards and up to May 1, there had been removed about 4,300,000 cubic yards.

In the upper chamber the excavation had so far advanced when the concrete laying was begun in August, 1909, that what remained could be accomplished while the concrete work was in progress. Steam shovels worked along the west wall and in the forebay, and channeling machines continued to cut trenches for the curtain walls and for the culverts under the floor at the north end of the chamber. In the trenching work, after the channelers had cut the rock free from the ledge of which it formed a part, it was blasted by dynamite, and taken out by self-digging orange-peel buckets operated by locomotive cranes. All the work was impeded by the small space in which it was carried on, which made it impossible to keep the shovels and cranes supplied with cars to take the spoil away as rapidly as they could dig it.

In the middle chamber the shovel excavation will be completed in May. The east half has been cleaned out and channeling machines are at work trenching for the culverts under the lock floor. A shovel is digging out a small ridge of rock that lies in the line of the center wall, and this and a small amount of rock and earth along the west side, are all that remain to be removed by steam shovel from the middle chamber.

Shovel excavation in the lower chamber proper will probably be completed in about eight months. The lowest cut at present is at 33 feet below sea level, which is about 17 feet above the bottom, and all three of the shovels at work in this chamber are excavating below sea level. The drainage sumps have been put down to their final depth and the drainage system is working well. Two 12-inch and one 6-inch, direct connected, electrically driven centrifugal pumps, with a joint capacity of 4,500 gallons a minute, are available to raise water from the sumps, but under ordinary conditions one of the 12-inch pumps can keep the pit dry. Temporary inconvenience has been caused in this chamber by a slide that moved into the excavation pit about one month ago. A quantity of earth estimated at about 75,000 cubic yards is sliding on a rock bed into the chamber. The steam shovel that is taking out this moving material is working on rock bottom, thus making it certain that the limits of the slide have been determined.

The plan for continuing the excavation in the lower locks involves two methods—steam shovel, and suction dredge. Steam shovels will do the digging in the lock chamber proper, as far as the location of the lower or north gates. The concrete sill of these gates will then be laid, and the gate abutments in the center and side walls will be constructed up to 5 feet above sea level. Wooden barriers will then be erected against the monoliths forming the abutments, and the portion of the pit north of the barrier will be flooded for the suction dredge. South of the barrier, in the chamber proper, steam shovel work will be continued until the pit is made ready for concrete, while north of it the suction dredge will take out the material in the forebay and complete the excavation for the side and center approach walls as far as possible.

From borings made in the material to be taken out by suction dredge it is believed that the excavation can be completed by this method down to 40 feet below sea level, leaving only 15 feet of rock to be taken out by steam shovel after the pit has been unwatered. A trestle is in process of construction from a point near the Mindi station to a hill about half a mile south, along the east side of the relocated Panama railroad. Dry spoil will be dumped over this trestle until a dyke is formed behind which the material excavated by suction dredge will be pumped. The water will drain into the Mindi River. It is the intention to set the 20-inch suction dredge *Sandpiper*, recently moved from Miraflores lock site and now being erected at Cristobal marine shop. at this work, and it will probably begin early in June.

Odd Fellows Anniversary.

Two hundred and fifty people gathered at Gorgona on Sunday, May 1, to participate in the celebration of the 91st anniversary of the founding of the Independent Order of Odd Fellows, representatives from the five lodges in the Canal Zone being present. At 11.30 the procession, with the officers in full regalia, was formed at the chapel and proceded to the Commission hotel headed by the band. Luncheon was served in the club room over the dining room, the members of the Rebekah Lodge acting as hostesses. The clubhouse, where the afternoon exercises were held, was decorated with flags and emblems of the order, the banners and colors of the Rebekahs being conspicuously displayed in the decorations of the entertainment hall. The stage was occupied by the Deputy Grand Sire of the Canal Zone, B. F. Sisson, and officers of the Zone lodges.

In his response to the address of welcome delivered by the chairman, Mr. L. U. Cole, of Gorgona, the Deputy Grand Sire stated that the first Odd Fellows' club in the Canal Zone was organized on November 10, 1906, and in September 10 of the following year the charter was granted and Canal Zone Lodge, No. 1, was instituted at Gorgona, with five charter members and 22 initiates. On May 16, 1908, Cristobal Lodge, No. 2, was instituted, and on the 29th of the same month, Canal Zone Lodge, No. 3, was instituted at Culebra. On October 10, 1908, the Isthmian Canal Order of Rebekahs was instituted at Gorgona; this remains the only auxiliary in the Canal Zone. On Saturday evening, April 30, 1910, the Pacific Lodge, No. 4, was instituted at Ancon, with nine charter members and 31 new members. There is an Odd Fellows' club at Gatun, the charter has been sent for, and the lodge will be instituted within a short time.

The program consisted of selections by the I. C. C. Band and singing by the audience; addresses by L. U. Cole, C. H. Mead, J. C. Mead, Geo. Hooker and S. E. Calvit; a tableau by the Rebekahs representing the motto of the order, "Faith, Friendship, Truth" in which Mrs. B. F. Henckle, Mrs. H. W. Otis, Mrs. W. E. McCann, Mrs. S. F. Calvit, the Misses Janie Calvit, Marie Bonus and Sarah Henckle took part, and selections by a male quartet composed of Messrs. Beetham, Whipple, Dohrman, and Briggs.

EXECUTIVE ORDER.

Duties of Law Officers—Amendments to Code of Criminal Procedure.

By virtue of the authority vested in me I hereby establish the following Order for the Canal Zone:

Article 1. The Counsel and Chief Attorney for the Isthmian Canal Commission shall be legal adviser to the Commission, the Chairman thereof and to the Head of the Department of Civil Administration; he shall submit his opinions in writing when requested by the Commission, the Chairman thereof or the Head of the Department of Civil Administration; he shall have the direction and control of all litigation before the courts of the Canal Zone or the Republic of Panama in which the Commission, or the Government of the Canal Zone or any of its dependencies are interested or involved, and he may appear for them, or either of them, before said courts when he deems it necessary; he shall have the supervision and direction of all prosecutions for offenses against the laws of the Canal Zone, and he may inquire into criminal matters and prosecute the same in person before the courts, when in his opinion it may be necessary to do so.

Article 2. The Counsel and Chief Attorney for the Isthmian Canal Commission, the Prosecuting Attorney, the Assistant Prosecuting Attorney, or other counsel specially designated by the Head of the Department of Civil Administration, shall have equal authority with the judges of the courts of the Canal Zone to issue subpœnas for witnesses in criminal cases, and each of said officers, as well as any judge of any of the courts of the Canal Zone, may examine witnesses under oath in the investigation of offenses against the laws of the Canal Zone.

Article 3. The information in a criminal case may be filed by the Prosecuting Attorney, the Assistant Prosecuting Attorney, or other counsel specially designated by the Head of the Department of Civil Administration, as well as by the Counsel and Chief Attorney for the Isthmian Canal Commission, and it may be verified by any of said officers, and the affidavit shall be sufficient if it states that the information is based upon the sworn testimony of witnesses and that the affiant solemnly believes that there is just cause for the filing of the information.

Article 4. Section 138 of the Code of Criminal Procedure is hereby amended to read as follows:

Section 138. When the information is not subscribed and sworn to by the Prosecuting Attorney, or other officer authorized to file informations, it must be set aside by the court in which the defendant is arraigned, upon his motion.

Article 5. Civil and criminal process issued from any court or tribunal of the Canal Zone may be executed and return thereon made by any peace officer of the Canal Zone.

The following are peace officers: The Marshal and Deputy Marshals of the Supreme Court; the Marshal of each of the Circuit Courts; the Bailiffs of the Supreme and Circuit Courts and all officers and members of the police force of the Canal Zone.

The provisions of this Article are cumulative, and shall not be construed to repeal or modify the existing laws relating to the execution of process and return thereon.

Article 6. All laws or orders, or parts thereof, in conflict with this Order are hereby repealed. WM. H. TAFT.

THE WHITE HOUSE, *April 16, 1910.*

[1190.]

SIX YEARS OF CANAL WORK.

Progress in Excavation, and Lock and Dam Construction.

The sixth year of American canal construction ended on May 3. A review of what had been accomplished during the preceding five years, with a description of the methods employed, was published in a series of articles in THE CANAL RECORD, issues of May 12, 19, 26, and June 2 and 9, 1909, under the heading "Five Years of Canal Work." No important administrative changes have taken place during the past year. The building of locks at Gatun and Pedro Miguel has been begun, and the excavation has been carried on with greater economy than in any previous year.

GATUN LOCKS.

The first concrete was laid in Gatun Locks with the permanent handling and mixing plant on August 24, 1909. During the first four months of its operation the plant underwent a number of changes suggested by the working conditions, and by January 1, 1910, it had reached an efficiency not anticipated before July 1 of this year. An indication of the way in which the plant gradually found itself is given by the amount of concrete laid each month since the work was begun, the working day being from 8 to 12 hours:

Month	*Cu. Yds.*	*Month*	*Cu. Yds.*
August	1,298	January	54,136
September	12,294	February	55,696
October	29,378	March	60,998
November	30,270	April	63,227
December	42,832		
		Total	350,129

The laying of concrete is advancing at the rate of 2,500 cubic yards a day; and there yet remain to be placed about 1,850,000 cubic yards.

LOCKS AT PEDRO MIGUEL AND MIRAFLORES.

The first concrete was laid in the locks at Pedro Miguel on September 1, 1909, when a temporary mixing plant was put in operation. The installation of the permanent mixing and handling cranes has not yet been completed, only three of six cranes being in operation. The amount of concrete placed each month since September, 1909, is as follows, the working day being eight hours:

Month.	*Cu. Yds.*	*Month.*	*Cu. Yds.*
September	2,370	January	16,273
October	8,310	February	13,218
November	10,169	March	18,793
December	13,007	April	25,330
		Total	107,470

It is estimated that by June 1, when all the units of the mixing and handling plant will be in operation, an average of 2,500 cubic yards of concrete will be laid each day of 8 hours. There remain to be placed at Pedro Miguel 807,000 cubic yards of concrete, and at Miraflores 1,505,000 cubic yards. At Miraflores the lock site is ready for the placing of concrete, and preparations are in progress for the installation of the cantilever crane mixing and handling plant.

In both the locks at Gatun and Pedro Miguel the iron work is being placed as the concrete laying advances, a large quantity of the castings are on the Isthmus ready to be set, bids have been asked on the gates, and plans for the operating machinery are nearing completion.

EXCAVATION.

The excavation record by years since May 1904, is as follows:

May 1 to May 1.	*Cubic Yards.*
1904–1905	648,911
1905–1906	2,964,993
1906–1907	7,365,438
1907–1908	24,197,267
1908–1909	38,038,898
1909–1910	32,672,565
Total	105,888,072

Of the total remaining, the amount to be taken out by dredges is 29,232,052 cubic yards, and the amount by steam shovels is 38,827,617 cubic yards.

The dry excavation during the past year was confined almost entirely to the Central Division, as the following statement shows:

Division.	*May 1, 1909, to May 1, 1910. Cubic Yards.*
Central	18,051,278
Atlantic	1,391,777
Pacific	903 801
Total	20,349,855

Of the 18,051,278 cubic yards excavated in the Central Division 14,888,427 cubic yards were taken from Culebra Cut. The record of excavation in the Cut since May 1904, follows:

May 1 to May 1.	*Cubic Yards.*
1904–1905	648,911
1905–1906	1,250,570
1906–1907	4,861,895
1907–1908	11,285,217
1908–1909	13,980,430
1909–1910	14,886,427
Total	46,913,450

There yet remain to be excavated from Culebra Cut 31,128,845 cubic yards, and the work is advancing at the rate of 1,240,000 cubic yards a month, that being the average monthly excavation since May 1, 1909.

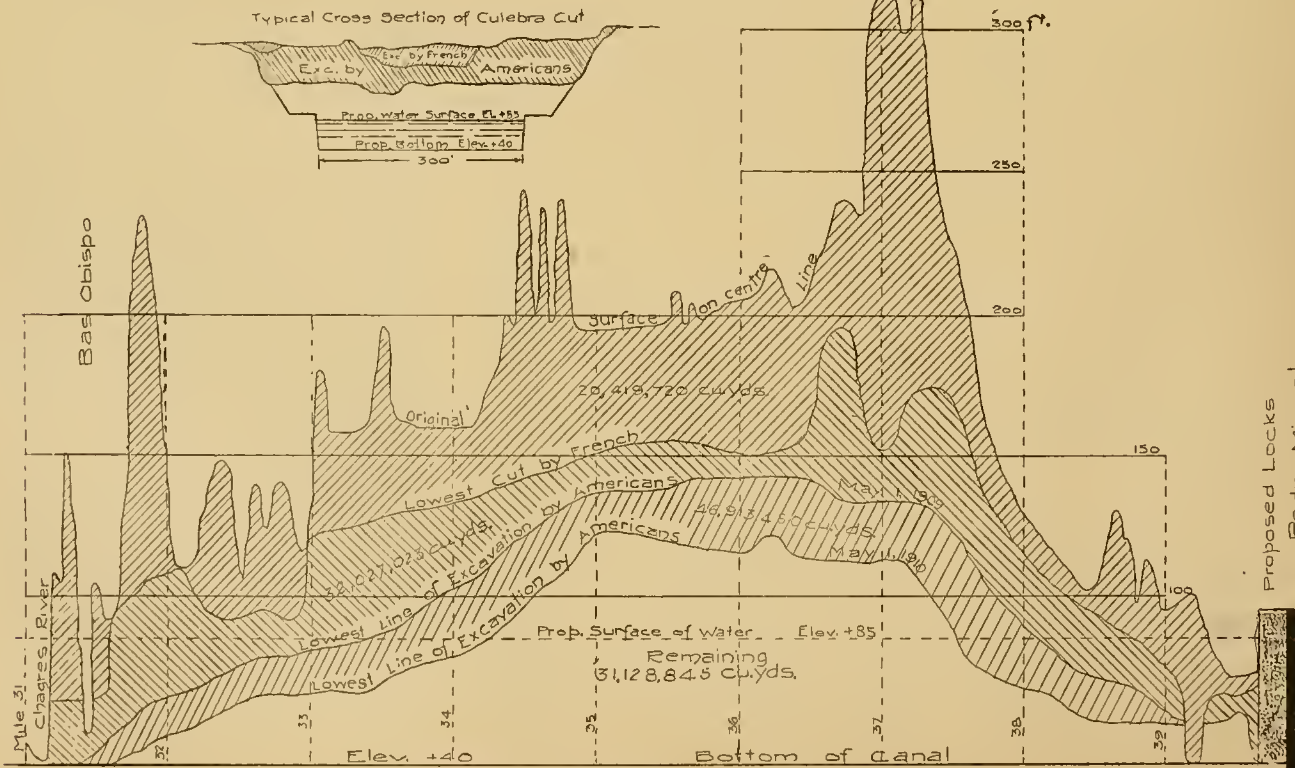
The work of dredging is practically confined to the Atlantic and Pacific entrances of the Canal, and the amounts are as follows:

DIVISIONS	Excavated.	To be excavated.
	Cu. Yds.	*Cu. Yds.*
Atlantic	17,765,142	15,750,257
Pacific	22,382,416	13,481,795
Total	40,147,558	29,232,052

The dredging is advancing at the rate of 1,000,000 cubic yards a month.

GATUN DAM AND GATUN LAKE.

The construction of the Dam across the Chagres River at Gatun was continued during the year in three sections—the dry and hydraulic fill of the eastern half of the Dam; the lining of the spillway with concrete; and



Profile of Culebra Cut
Showing Material Excavated and to be Excavated

the dry fill of the western section. Two parallel ridges of rock and earth stretch across the valley, from hill to hill, and between these ridges the hydraulic fill is being made. In the east half of the Dam the hydraulic fill is at 53 feet above sea level, which is within 62 feet of the final height. In the western section the hydraulic fill has just been begun. Of the total of approximately 10,000,000 cubic yards of this fill to be made, 3,000,000 cubic yards have so far been placed in the east section.

All the old channels of the river are closed by the Dam and the water is flowing through the spillway. Low water in Gatun Lake is at 10 feet above sea level, which is ten feet higher than the original surface of the river at Gatun.

Central Division Highways.

The road from Las Cascadas to Bas Obispo was finished last week and is open to traffic. The subgrade is 18 feet wide and the metalled surface is 12 feet wide. The total length is over 7,000 feet. Gravel deposited by the floods in the Chagres river in the excavation at Santa Cruz was used for the metalling, a surface 8 inches thick being rolled onto the subgrade by a 3-ton roller. After it has been rolled and thoroughly wet this metalling becomes very hard.

Work on the subgrade of the highway from Empire to Paraiso has advanced so far that it is expected it will be finished early this month.

Obituary.

L. D. Geary, an American in the transportation service of the Central Division, died at Colon Hospital on April 18, after an illness of one day. He was on his vacation leave. He was 53 years of age, and had been on the Isthmus five years, his latest place of residence being Paraiso. He is survived by his wife.

Lynn E. Fake was killed while at his work in Gorgona shops, on April 24, by the bursting of an air cylinder head. He was born in Schuylerville, N. Y., in 1879, was unmarried, and had lived on the Isthmus about one month, his quarters being in Gorgona. His father living at Schuylerville survives him.

West Coast Business of Panama and the Canal Zone.

Balboa is the port at which practically all the ships in the foreign trade on the Pacific ocean enter Panama and the Canal Zone. Local coastwise vessels anchor in the harbor of Panama city and discharge their cargo into lighters. Vessels entering Balboa tie up at a wharf. A statement of the west coast business of Panama and the Canal Zone, as represented by the vessels entering and leaving Balboa during the quarter ended March 31, follows:

ENTERING.

MONTH.	VESSELS.		CARGO—TONS.		P'SENGERS	
	Number.	Tonnage.	Local.	In transit.	Number Cabin	Number Steerage
January ...	19	36,622	1,378	10,908	195	143
February..	18	34,372	20,220	8,425	139	109
March.....	24	36,630	2,090	12,832	301	199
DEPARTING.						
January ...	20	42,269	69	13,660	178	65
February..	19	35,724	48	13,289	172	98
March.....	22	30,758	41	15,905	210	85

OFFICIAL CIRCULARS.

Superintendent Mechanical Division.

CULEBRA, C. Z., April 1, 1910

CIRCULAR NO. 318:

Mr. A. L. Robinson is appointed Superintendent, Mechanical Division, effective April 1, 1910. He will continue to exercise under this title the authority previously vested in him as Elecrical Engineer and Master Mechanic. The latter title will be discontinued.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Inspector of Shops.

CULEBRA, C. Z., April 29, 1910.

CIRCULAR NO. 319:

Effective May 1, 1910, Mr. W. O. Johnson will be transferred to the Chief Engineer's Office with the title of Inspector of Shops, reporting directly to the Assistant to the Chief Engineer, and, as such, perform such duties as may be assigned to him by the Chief Engineer in connection with the inspection of the distribution of tools, machinery, and work among the different mechanical and electrical shops of the Isthmian Canal Commission and Panama railroad. His services may be used by the different division engineers in any way desired to improve the efficiency of the shops and economy in work performed.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Content of Cars in Sand, Gravel, and Crushed Stone.

CULEBRA, C. Z., April 30, 1910.

CIRCULAR NO. 320:

The following quantities will be standard for measuring carloads of sand, gravel and crushed stone for the Isthmian Canal Commission and the Panama Railroad Company:

	Cubic Yards.
Old Panama Railroad coal cars..........	15
Standard or large coal cars..............	25
Roger ballast cars.........................	25
I. C. C. wooden and steel flats, without sideboards..............................	10
I. C. C. wooden and steel flats, with sideboards..................................	15
Oliver dump cars..........................	12
Western dump cars (large)...............	20
Western dump cars (small)...............	12
Ingoldsby dump cars......................	30
Goodwin dump cars........................	32½

GEO. W. GOETHALS, *Chairman.*

Medical Service for Contractors' Employes.

CULEBRA, C. Z., April 29, 1910.

HEADS OF DEPARTMENTS AND DIVISIONS:

When any employe of a contractor performing work for the Commission is in need of medical attention, a letter or note from the contractor will be sufficient to identify him, and the Chief Sanitary Officer will instruct district physicians to accept such identification. This supersedes my letter to Division Engineers dated March 23.

GEO. W. GOETHALS, *Chairman.*

Telephone Calls by Number Instead of Name.

PANAMA RAILROAD COMPANY,
COLON, R. P., April 28, 1910.

A telephone directory, including all telephones excepting those used for dispatching trains, has been published and is now being distributed.

Effective May 1, it is directed that all persons making calls over the telephones through the exchanges of this Company will make their call by number instead of name as heretofore.

A. B. KRATZ.
Actg. Supt. Tel. and Tel.

Approved: J. A. SMITH,
General Superintendent.

Zone Liquor Licenses.

ANCON, C. Z., April 30, 1910.

The Isthmian Canal Commission has authorized the issuance of liquor licenses in the Canal Zone for the year commencing July 1, 1910, at Rio Grande, Culebra, Empire, Las Cascadas, Bas Obispo, Matachin, Gorgona, Tabernilla, Bohio and Gatun.

The areas within which saloons may be located are as follows:

RIO GRANDE—On the west side of the old line of the Panama railroad, facing the railroad, in line with the saloons at present licensed there.

CULEBRA—Lots 11 to 19, inclusive, block 1; lots 12 to 20, inclusive, block 2; lots 1 to 9, inclusive, block 4; lots 2 to 10, inclusive, block 5, in West Culebra.

EMPIRE—The area bounded by Second avenue, Main street, Seventh avenue and Front street.

LAS CASCADAS—The section known as the new town, where private houses are now located, on the west side of the Panama railroad.

BAS OBISPO—On the west side of the Panama railroad, in line with the buildings in which saloons are now located.

MATACHIN—On the main street of the town, on the north side of the Panama railroad, in line with the buildings in which saloons are now located.

GORGONA—Area bounded by Second street, Avenue E, Fifth street and Central avenue (or Avenue A); but no saloons will be permitted to face on Central avenue.

TABERNILLA—On the front street of the town, east of the Panama railroad, facing the railroad and running a distance of about 500 feet in a northerly direction from the building in which a saloon is at present located, north of the Panama railroad passenger station.

BOHIO—On the main street of the town, on the southwest side of the Panama railroad, fronting the railroad.

GATUN—Blocks 7 and 8 of the new town laid out by the Panama Railroad Company.

All of the areas described are more particularly indicated on maps which may be seen in the office of the Collector of Revenues, Ancon, or in the offices of the District Tax Collectors at Empire, Gorgona and Cristobal.

The designation of the areas hereinbefore made, however, shall not be construed as prohibiting the renewal of the licenses of dealers now engaged in the retail sale of liquor, under proper license, in any of the towns mentioned, outside of the areas designated—the places of business of all such dealers outside of the areas described being shown on the maps hereinbefore referred to.

The number of saloons to be located in each town within the area designated shall not be restricted, but each reliable and responsible applicant shall be granted a license for the sale of liquor within any such described area, in conformity with the regulations, upon the payment of the necessary fee.

Applicants for licenses are invited to submit their applications prior to June 1, 1910, in conformity with the regulations adopted by the Isthmian Canal Commission, April 27, 1907, and amendments.

TOM M. COOKE,
Collector of Revenues.

Red Cross Finances in March.

RECEIPTS.

March 1—Received from Lt.-Col. Mason, Acting Treasurer.......	$2,231.34	
March 2—Receipts from flower dance, Cristobal.................	2.00	
March 27—Receipts from flower dance, Cristobal.................	2.00	
March 10—Interest on funds in bank, to February 28............	3.30	
March 1 to 31—Dues for membership..........................	102.00	
Total receipts..................		$2,340.64
DISBURSEMENTS.		
March 3, 9, 12 and 18—Postage as per attached receipts.	$4.00	
March 21—Check No. 1, payment of I. C. C. Bill No. B-678, for stationery supplies from Quartermaster's store..................	16.25	
Total disbursements..........		$20.25
March 31, 1910, balance on hand.......		$2,320.39

JOHN L. PHILLIPS, *Treasurer.*

Disbursements approved, April 1, 1910.

C. A. DEVOL, *Chairman.*

Band Concert.

The Isthmian Canal Commission Band will give a concert at Hotel Tivoli, Ancon, C. Z., on Sunday, May 8, 1910, at 7.30 p. m. The program follows:

1 March—*Victorious Eagle*..................Rosey
2 Selection—*Little Nemo*...................Herbert
3 Caprice—*Dance of the Nymphs*..........Buglione
4 Reminiscences of Scotland...............Godfrey
Introducing—"Scots Wha Hae," "Auld Robin Gray," "Bonnie Laddie," "The Campbells Are Coming," "The White Cockade," "John Anderson, My Jo," "Logie O'Buchan," "Green Grow the Rushes O," "The Braes of Auchterarder," "Annie Laurie," "Within a Mile of Edinboro," "Bonnet Blue" (with variations for different instruments), "Blue Bells of Scotland," "Tullochgorum," "Auld Lang Syne," and finale.
5 Bolero—*Isolina*..........................Labory
6 Overture—*Poet and Peasant*..... ....Suppe
7 Waltz—*Blue Danube*.......................Strauss
8 Fantasia—*My Old Kentucky Home*........Dalbey
(With variations for different instruments.)
9 Intermezzo—*Flower Girl*................Wenrich
10 March—*The New Colonial*..................Hall

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Las Cascadas, C. Z., on Sunday, May 15, at 6 p. m.

SOCIAL LIFE OF THE ZONE.

Women's Clubs.

The Gatun Woman's Club has elected Mrs. A. P. Charles H. Stoddard, president, in the place of Mrs. Perry Underhill, resigned.

The Empire Woman's Club exhibited the Federation art works on Thursday afternoon, April 14, the program being in charge of the art department, Miss Jessie Smith, chairman. The home department is planning an afternoon program for early in May, when the children of the club members will be entertained.

The social meeting of the Pedro Miguel Woman's Club was held at the home of Mrs. L. M. Vacher, Paraiso, on Wednesday afternoon, April 20. There was a good attendance.

The annual meeting of the Cristobal Woman's Club was held in the clubhouse on Wednesday afternoon, April 27, marking the close of the third year of the organization. Since the opening of the club year in October, there have been 22 regular scheduled meetings and seven board meetings. The general meetings, held semi-monthly, are under the different departments. The art and literature department has provided four programs, including a complimentary concert given in January. The programs under the education department included a paper on the Canal Zone public schools. The home department has provided three programs, and conducted the bazaar held at Christmas. The lectures read under the philanthropy department included one on the Red Cross work and one on contagious diseases. The art and literature department meetings have been devoted to the study of several of the Shakespeare plays; the home department has taken up the discussion of household matters, and the philanthropy department has been active in civic work. Under the direction of Mrs. Frank Ullrich the club chorus has continued its work and contributed to the programs of the year. The club membership of 60 has been maintained. Officers elected for the ensuing year are: Mrs. E. H. Colip, president; Mrs. Thomas E. Brown, Jr., first vice-president; Mrs. Frederick Mears, second vice-president; Mrs. I. P. Eppelsheimer, recording secretary; Mrs. Pierce T. Murphy, corresponding secretary; Mrs. E. C. Crummett, treasurer. The chairmen of departments have been elected as follows: Art and literature, Mrs. J. L. Storla, chairman, Mrs. Frank Ullrich, director; home, Mrs. C. E. Jennings, chairman, Mrs. W. H. Bedell, Mrs. Charles M. Butters, directors; education, Mrs. Carl H. Elliott, chairman, Mrs. A. O. Hermann, Mrs. Tracy Robinson directors; philanthropy, Mrs. Edward Beverly, chairman, Mrs. M. C. Rerdell, Mrs. P. T. Murphy, directors. The club will resume meetings early in October.

At the election of officers in the Gorgona Woman's Club held in April, Mrs. Harry W. Otis was chosen president; Mrs. T. S. Booz, vice-president; Mrs. S. E. Calvit, secretary; Mrs. W. E. McCann, treasurer. The regular meeting of the club in charge of the home department was held at the clubhouse on Thursday, April 28. The club will hold a musical and literary entertainment at the clubhouse on Saturday evening, May 14. An admission of 25 cents will be charged.

Court No. 8, I. O. P. K., held a dance at the Cristobal clubhouse, on Tuesday evening, April 23. Music was furnished by Arnold's orchestra. It is expected that arrangements will be made for a german to be held monthly at the clubhouse.

Church Work.

The Gatun Union Sunday school held a sale of fancy articles, cakes and homemade candies at the clubhouse on Thursday evening, April 21, the proceeds of which will be devoted to the fund for the maintenance of two scholarships in the Methodist College, Panama. Last year the school maintained one scholarship for an Indian boy. The cost of a scholarship is $35, gold.

The First Baptist Church of Empire, met in annual business session on May 1. Annual reports showed a net membership of 38, after having received 23 and dismissing 15 during the past year. Receipts and expenditures amounted to $492.11.

The election of officers for the ensuing year resulted as follws: Deacons, W. H. Butler, J. C. Forman, S. H. Harrison, M. P. Pitts, and H. E. Whyde; trustees, J. C. Allyn, I. H. Ball, H. W. Dohrmann, J. C. Forman, and W. A. Vickers; church clerk, J. C. Forman; church treasurer, W. H. Butler.

The Empire Christian League held an entertainment at the chapel on Wednesday evening, April 27. The program consisted of songs by Madame A. Faure and Mr. Dickson, piano selections by Mrs. Shivers and a series of stereopticon views representing scenes on the Isthmus and in Costa Rica, exhibited by Mr. Upson, president of the Empire Camera Club. Refreshments were served by the social committee during the half hour which followed the program. Mrs. E. P. Beck has been appointed chairman of the social committee in the place of Mrs. W. O. Johnson, who has resigned.

The Ladies' Aid Society in connection with the Methodist Episcopal church in Panama will hold a social at the church on Thursday evening, May 5. A musical program has been arranged and refreshments will be served. The regular meetings of the society are held on the third Thursday afternoon in each month at the homes of the members. Mrs. J. H. Morley is acting president in the place of Mrs. Stewart, whose death occurred recently.

As delegates to represent the Isthmian Sunday School Association at the World's Sunday School Convention to be held at Washington, May 19, to 22, Mr. Stanhope of Gatun and Mr. Pitts of Bas Obispo have been elected. The affiliated schools in the Zone will respond to a call that has been issued by the International Sunday School Association for a world's Sunday school day to be observed on May 22. There is a movement under consideration to arrange for a sightseeing trip through the Canal for the Sunday schools on Decoration Day.

Missing Men.

The American Legation in Panama is in receipt of inquiries for information about the following named persons:

Philip Maguire, Patterson, N. J.
John F. Sharkey, Charleston, S. C.
Harrison (Harry) Pyrah, Morrisville, Pa.
John Earl Owen, Rapid City, S. D.
Fred N. Penford, New York, N. Y.

Information should be addressed to the American Legation, Panama.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

THE LYRIC GLEE CLUB.

The Lyric Glee Club began its entertainments in the Commission clubhouses on April 25, at Gatun. There and at all the other places where it entertained, the club was greeted by a large audience and its efforts were appreciated. At Porto Bello, where a large number of men work at night, the club sang a few numbers while the night shift was at its supper in the Commission hotel. The entertainment was given at Empire, April 26; Gorgona, April 27; Porto Bello, April 29; Cristobal, April 30; and at Camp Elliott, on May 2 Entertainments will be given at Culebra, May 6; Empire, May 12; Gorgona, May 14, Gatun, May 15.

CULEBRA.

The following is the score of the duck pin bowling contest between the boys of Empire and Culebra last Saturday night:

Empire	*1st.*	*2d.*	*3d.*	*Culebra*	*1st.*	*2d.*	*3d.*
Johnson	90	77	74	Hollan	91	85	91
Pice	75	84	75	Fraser	90	81	75
George	86	75	81	Warner	70	88	79
Catto	58	79	86	Koe	66	77	78
Culley	69	70	61	(Blank)	74	75	77
Totals	388	385	377	Totals	401	406	403

The following is the standing of the men in the chess tournament:

	Won.	*Lost.*		*Won.*	*Lost.*
Vogel	6	0	Morgan	3	3
Wilson	4	2	Dubois	3	4
Warner	3	2	Stearns	3	4
Putnam	3	3	Hunter	0	7

EMPIRE.

The standing of the men in the pool tournament is as follows:

	W.	*L.*	*Pc.*		*W.*	*L.*	*Pc.*
McKeever	9	2	.818	Earle	5	5	.500
Davies	8	2	.800	Sawtelle	3	4	.428
Pearson	7	2	.777	Schmahl	4	6	.400
McCulloch	5	2	.714	Rounsevelle	3	6	.333
Moeller	4	2	.666	Brown	1	4	.200
Edwards	3	3	.500	Smith	1	4	.200

Mr. Louis DePoorter, of Gatun, gave an exhibition of pool playing last Saturday evening.

The gymnasium class will start in full on Monday, May 16. It will be instructed in gymnastics especially adapted to the Canal Zone climate, and will meet every Monday and Thursday nights.

The basketball team is looking for games, address D. Mullane, manager.

GORGONA.

The Pennsylvania Greenhorns won two out of three games in a bowling contest with the Texas Longhorns Friday night, May 27.

The Quartermasters' bowling team, consisting of S. D. Roper, F. King, C. B. Sexton, C. L. Prentiss and H. W. Otis, would like to hear from the Quartermasters' forces along the line. Address R. C. Shady, Gorgona, Manager.

GATUN.

Following is a list of the officers and members of the Gatun Glee Club: C. S. Leftwich, president; Mr. Charles M. Lahm, secretary and treasurer; H. E. Ruckert, musical director; J. F. Stevens, librarian; first tenors, A. Richards, C. S. Leftwich, S. Perkins and J. H. Poole; second tenors, P. R. Shayler, E. H. Robertson, C. D. Martin and M. C. Bottenfield; baritones, Harry Foman, G. W. Connor, C. E. Litz, Henry Rohr and L. F. Words; bassos, Edward Louner, C. M. Lahm, J. W. Weeds; accompanist, J. D. Palm. Rehearsals will be held on Friday evening of each week.

The mechanical drawing class under the direction of Mr. Fox, will meet on Monday and Friday evenings instead of meeting once a week as heretofore.

Mr. Chatfield's class in mathematics will hold sessions Monday and Wednesday evenings at 8.30 o'clock.

The Bible discussion club will meet at 7.45 on Tuesday evenings instead of 8 o'clock.

The gymnasium classes will meet regularly Monday and Wednesday evenings during the month of May except that there will be no meeting on the 16th. Tuesday and Wednesday evenings will be devoted to indoor baseball and basketball practice. The handball court is proving popular. Gorgona scored 25 runs and Gatun 17 in the game of indoor baseball played Saturday night. A return game will be played.

Professor Carr's first lecture on Isthmian History crowded the game room last Thursday evening. The course will last ten weeks. The lectures are free to members.

The Spanish class now numbers fourteen. The class meets Thursday evenings.

Mr. U. L. Upson, president of the Empire Camera Club, gave an illustrated lecture Friday evening on

"Camera Work," after which the Gatun Camera Club was organized with the following officers: President and librarian, Mr. Healy; vice-president, Mr. Nat Johnson; secretary and treasurer, Mr. Connor.

The tournament of the chess and checker club was started last Saturday night.

The progressive pool tournament held last Friday night resulted as follows. First preliminaries: Grimison 50, Kenny 19; Hughes 50, Smith 21; Bailey 50, Porter 46; Dalton 50, Jones 40. Second preliminaries: Grimison 50, Hughes 43; Dalton 50, Bailey 45. Finals: Grimison 50, Dalton 29.

During the twenty-six days in April 2,515 games were bowled. In every case the men using the alleys have increased their averages over the month of March. Of the 200 or over scores, 37 were rolled in April against 22 in March. The following match games took place last week at Gatun:

All Stars	773	743	913
Gatun Reds	822	777	796
House No. 195	740	785	717
House No. 4	685	736	695
Gatun	780	812	839
Gorgona	798	713	803

The schedule for this week is All Stars vs Reds, and Gymnasium vs Reds.

CRISTOBAL.

An informal musical will be held in the game room on Friday night of this week. The program will consists of solos, duets, quartet numbers, etc., rendered by old members.

The Gatun bowling team defeated Cristobal Friday night, winning two out of three games, as follows: Gatun, 783, 787, 810; Cristobal, 814, 727, 732.

The Cristobal Minstrel Company, a local organization composed of thirty members of the Young Men's Christian Association, repeated the performance of April 22, on Tuesday evening, April 26. The entertainment will be given at the Gorgona clubhouse on the evening of May 4, at Colon bull ring in an outdoor performance next week, and at other places in the Zone villages at later dates. The program follows:

Opening Chorus	Entire Company
Prairie Land	Master Jennings
How Do You Do, Miss Josephine	Mr. Robinson Mr. Jamieson
Can't You See	Mr. M. Schwallenberg
Strawberries	Mr. Thomas

SOLOS.

I Dream in the Gloaming of You	Mr. Dayton
There's a Big Cry Baby in the Moon	Mr. Glick
If I Had the World to Give You	Mr. McArthur
Everybody's Pickin' on Me	Mr. Sale
Mandy, How Do You Do	Mr. White
Nobody Knows Where John Brown Went	Mr. Raterree
Closing Chorus—*Star Spangled Banner*	Mr. Carr and Entire Company

OLIO.

1. Cornet Solo	Mr. Jamieson
2. Monologue	Mr. Ratterree
3. Solo—*Way Down Home*	Mr. Sale
4. Cartoons	Mr. Glick
5. Magician	Mr. Patton

FINALE.

"Meal Time at an I. C. C. Hotel"—(A Comedy)	By the Entire Company

CAST OF CHARACTERS.

Steward	James N. Ratterree
Head Waiter	E. Sale
First Mechanic	H. Glick
Second Mechanic	H. Robinson
Tourist	C. C. Carr
Stenographer	R. V. French
School Teacher	Harry Billings
Y. M. C. A. Secretary	E. M. Foster
First Waiter	J. White

Waiters—Messrs. Carey, Raymond, Russell, M. Schwallenberg, H. Schwallenberg.

Mechanics—Messrs. Jamieson, Thomas, McArthur, Adams, Patton.

PORTO BELLO.

The formal opening of the Porto Bello clubhouse was held Wednesday evening, April 27, with Capt. Horton W. Stickle presiding.

Camp Elliott Y. M. C. A.

The permanent battalion is getting adjusted to Camp Elliott life and the gymnasium is again running full speed. On Tuesday evening of last week the special features were intercompany relay ten pin races and medicine ball competitions. Thursday and Friday were moving-picture nights.

After the interruption caused by the exchange of commands the baseball league is again under way.

A movement is on foot to organize a glee club and also a male quartet at the camp.

The Sunday evening song services are increasing in interest.

BASEBALL.

ATLANTIC LEAGUE.

RESULT OF GAME, MAY 1.

Colon, 9; Commissary-Subsistence, 6.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*P.*	*W.*	*L.*	*Pc.*
Com-Sub	13	10	3	.768	Civ. Adm	11	4	7	.363
P. R. R	11	5	6	.454	Colon	11	4	7	.363

SCHEDULE FOR MAY 8.

Commissary-Subsistence vs. Panama Railroad.

Colon vs. Civil Administration.

C.-S.	AB.	H.	PO.	A.	E.	Colon.	AB.	H.	PO.	A.	E
Smith, ss	4	1	2	3	0	Clements, cf	4	1	2	0	0
Lindberg, lf	5	2	2	0	0	Wright, 1b	4	3	15	0	0
Curtis, 3b	4	2	5	1	1	Barney, 2b, p	5	1	1	3	0
McCusty, c	4	0	4	0	0	Herring, c	5	2	3	1	1
McGinniss, cf	4	0	0	0	1	Emery, 3b	4	0	2	4	1
Payne, 1b	4	1	11	0	1	Hope, lf	5	1	4	1	1
Muggleton, 2b	4	0	0	4	0	Weber, ss	4	0	0	3	0
M'Cormack, rf	3	0	0	0	0	Massen, rf	4	1	0	0	0
Simmons, p	3	1	0	4	3	Goree, p	3	1	0	1	0
						Stevens, 2b	0	0	0	0	0
Totals	35	8	24	12	6	Totals	38	10	27	13	3

Com.-Subsistence	0	0	0	0	2	0	4	0	0—6
Colon	3	1	0	0	1	3	1	0	x—9

Runs—C.-S.: Smith, Lindberg, Curtis, McCusty, McCormack, Simmons; Colon: Wright (3), Barney, Herring (2), Emery, Weber, Stevens. Runs earned—Colon, 3; C.-S., 3. Two base hits—Smith, Herring. Home runs—Wright, Herring. Hits—Off Goree, 6; off Barney, 2. First base on errors—Colon, 5; C.-S., 2. Stolen bases—Curtis, McCusty, Simmons, Hope (2), Weber, Massen. Bases on balls—Off Goree, 5; off Simmons, 2. Struck out—By Goree, 1; by Barney, 1; by Simmons, 4. Hit by pitcher—Emery, Wright, Stevens. Left on bases—Colon, 10; C.-S., 7. Double play—Simmons to Smith to Payne. Umpire—Rohr. Time of game—2 hours. Scorer—Rennard.

ISTHMIAN LEAGUE.

RESULTS OF GAMES, MAY 1.

Gorgona, 8; Marines, 3.

Empire, 8; Ancon, 1.

Empire, 1; Ancon, 1 (Game called in ninth inning on account of darkness.)

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*P.*	*W.*	*L.*	*Pc.*
Empire	21	16	5	.762	Ancon	20	7	13	.350
Gorgona	23	16	7	.695	Marines	24	5	19	.208

SCHEDULE FOR MAY 8.

Marines at Empire.

Ancon at Gorgona.

Gorgona.	AB.	H.	PO.	A.	E	Marines.	AB.	H.	PO.	A.	E
Clements, cf	4	1	3	0	0	Lubomski, lf	4	0	1	0	0
Bath, ss	4	1	3	2	1	Scarff, 2b	3	1	4	3	1
Barney, p	3	1	0	3	0	McCabe, c	4	0	5	6	2
Wright, 1b	4	1	11	0	0	Richards, ss	4	1	0	1	1
Emery, 3b	3	2	0	3	0	Miller, 1b	4	0	10	0	1
J. Ridge, 2b	3	1	1	3	1	Fields, 3b	3	0	2	1	1
Kinney, c	4	0	8	1	0	McKelvey, rf	4	1	0	0	0
Culbertson lf	3	0	0	0	0	Shephard, cf, p	3	1	0	1	1
A. Ridge, rf	4	0	0	1	0	Burns, p	3	0	2	4	2
						Silke, cf	1	0	0	0	0
Totals	32	7	26*	13	2	Totals	33	4	24	16	9

Gorgona	0	0	2	0	0	0	4	2	x—8
Marines	0	0	2	1	0	0	0	0	0—3

*McCabe out for running out of base line.

Runs—Gorgona: Clements, Bath (2), Barney, Wright, J. Ridge, Culbertson (2); Marines: Lubomski, Scarff, Fields. Runs earned—Gorgona, 2. Two base hits—Clements, Barney, Emery, Shephard. Sacrifice hit—J. Ridge. Stolen bases—Emery, J. Ridge, Culbertson (3), Scarff, Richards, McKelvey, Burns. Bases on balls—Off Barney, 4; off Burns, 4; off Shephard, 1. Struck out—By Barney, 7; by Burns, 4; by Shephard, 2. Wild pitches—Burns (2). Left on bases—Gorgona, 6; Marines, 7. Double play—Burns to Scarff. Umpire—Foster. Time of game—1.40. Scorer—D. G. Hayes.

Empire.	AB.	H.	PO.	A.	E	Ancon.	AB.	H.	PO.	A.	E
Dixon, ss	3	0	4	2	0	Snyder, 2b	3	0	2	1	0
Thompson, 2b	3	0	1	1	0	Tinsley, ss	3	1	2	3	0
Christ'pher, 1b	4	2	5	0	0	Drennan, rf	1	1	0	0	1
Markley, c	3	1	2	2	1	Smith, c	3	1	3	1	0
Fluharty, lf	3	2	4	0	0	Pearman, 3b	3	1	1	0	0
Murphy, cf	2	0	2	0	0	Keller, lf	2	0	2	0	0
Toone, 3b	3	1	1	2	1	Hunter, cf	3	0	4	1	0
McVey, rf	3	2	0	0	0	Nygren, 1b	2	0	7	0	1
Marshall, p	2	1	2	1	0	Wrightson, p	3	1	0	1	0
Totals	26	9	21	8	2	Totals	23	5	21	7	2

Empire	1	0	0	3	0	2	2—8
Ancon	1	0	0	0	0	0	0—1

Runs—Empire: Dixon, Christopher (2), Markley (2), Fluharty, Murphy, Toone; Ancon: Tinsley. Runs earned—Empire, 3. Two base hits—Christopher, Markley, Fluharty, Drennan. Sacrifice hits—Thompson, Fluharty, Murphy. Sacrifice fly—Marshall. Stolen bases—Christopher, Markley, Pearman. Bases on balls—Off Marshall, 4; off Wrightson, 2. Struck out—By Marshall, 2; by Wrightson, 3. Hit by pitcher—By Wrightson—Markley. Left on bases—Empire, 4; Ancon, 5. Double plays—Dixon to Christopher, Hunter to Nygren. Umpire—Hill. Time of game—1.04. Scorer—J. K. Munroe.

Empire.	AB.	H.	PO.	A.	E	Ancon.	AB.	H.	PO.	A.	E
Dixon, ss	4	0	3	2	0	Snyder, 2b	4	1	2	2	0
Thompson, 2b	4	0	0	2	1	Tinsley, p	3	0	1	3	0
Christopher, p	4	2	0	0	0	Drennan, rf	3	2	3	0	0
Markley, c	4	0	7	0	0	Smith, c	4	0	8	2	0
Fluharty, lf	4	1	4	0	0	Pearman, 3b	3	1	3	0	0
Murphy, cf	3	1	0	0	0	Keller, lf	4	0	1	0	0
Toone, 3b	3	0	3	3	0	Hunter, ss	4	0	1	2	1
McVey, rf	3	0	0	0	0	Nygren, 1b	2	0	6	0	0
Marshall, 1b	3	1	10	2	0	Steele, cf	2	1	2	1	0
Totals	32	5	27	9	1	Totals	29	5	27	10	1

Empire	0	0	0	1	0	0	0	0	0—1
Ancon	0	0	0	1	0	0	0	0	0—1

Runs—Empire: Christopher; Ancon: Tinsley. Run earned—Empire, 1. Two base hit—Christopher. Sacrifice hits—Drennan, Pearman, Nygren, Steele. Stolen bases—Thompson, Christopher, Tinsley, Pearman, Steele. Struck out—By Christopher, 7; by Tinsley, 6. Hit by pitcher—By Christopher—Tinsley. Left on bases—Empire, 4; Ancon, 6. Double plays—Dixon to Marshall. Umpire—Hill. Time of game—2 hours. Scorer—J. K. Munroe.

LOST—On Sunday afternoon, May 1, at the Gorgona clubhouse during the Odd Fellows' celebration, a lady's gold watch with chatelain. The finder will please return to the Y. M. C. A. secretary, Gorgona.

Atlantic League Fielding Averages.

Following are the fielding averages of Atlantic League players who have participated in three or more games, up to and including April 3:

NAME AND CLUB.	G.	PO.	A.	E.	AV.
Beard, C.-S.	10	10	6	0	1000
Morrell, C. A.	6	12	3	0	1000
Woods, P. R. R.	6	16	4	0	1000
Lindberg, C.-S.	9	3	0	0	1000
Reese, C.-S.	4	1	3	0	1000
Johnson, C. A.	3	3	0	0	1000
Fluharty, P. R. R	3	3	0	0	1000
Fechtig, C. A.	4	7	4	0	1000
McCusty, C.-S.	10	93	13	4	.963
McGinnis, P. R. R.	9	19	3	1	.956
Kenney, Colon	9	71	10	4	.953
Rex, C. A.	7	28	8	2	.947
Stevens, Colon	10	27	9	2	.945
Edwards, C. A.	9	54	12	5	929
Lewis, P. R. R.	11	69	23	8	.920
Bailey, Colon	7	8	11	4	.916
Herring, Colon	4	24	8	2	.911
Hiller, P. R. R.	5	29	2	3	.911
Fleichman, C. A.	8	11	19	3	.909
Sorechen, Colon	4	26	1	3	.900
Simmons, C.-S.	8	2	29	3	.881
Heberling, P. R. R.	5	42	2	6	.880
Farrar, C. A.	9	14	0	2	.875
Jeffries, Colon	5	11	3	2	.875
Curtis, C.-S.	5	13	14	4	.871
Bryan, P. R. R.	11	11	1	2	.857
Calvert, Colon	4	6	0	1	.857
Russell, C. A.	7	4	19	4	.851
Muggleton, C.-S.	9	10	12	4	.845
Reiss, C. A.	4	3	8	3	.842
Ellington, C. A.	4	19	1	4	.833
Weber, Colon	10	8	11	4	.826
Smith, C.-S.	10	15	15	7	.810
Coffin, C.-S.	5	15	2	4	.809
Hope, Colon	7	8	0	2	.800
Horsey, C. A.	4	3	1	1	.800
Bath, C. A.	8	16	12	8	.777
Cleary, Colon	3	7	7	4	.777
Stratton, P. R. R.	4	1	6	2	.777
Souders, Colon	9	9	1	3	769
Gilmartin, C.-S.	5	9	7	5	.765
Bradley, P. R. R.	5	8	1	3	.750
Hoffman, P. R. R.	3	2	4	2	.750
Wheeler, P. R. R.	6	10	14	9	.727
Morton, Colon	6	8	10	7	.720
McKeever, C. A.	3	1	4	2	.714
Dockery, P. R. R.	9	6	9	7	.681
Odea, Colon	6	3	3	2	.625
Vifquain, P. R. R.	3	3	2	3	.625
McCormack, C.-S.	10	0	2	1	.500

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., May 4, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Abdo, Solomon
Agacio, H. B.
Anderson, L. H.
Booth, W. G.
Bradley, James
Brasile, Mrs. J. A.
Cecil, Miss Lura
Clarke, George
Cochrane, Sam
Dennis, J. A.
Doyle, Percy
Ellinger, Benjamin F.
Franca, Patricio
Holter, Thorsten
Hueilsman, Frank
Johnson, N.
Mason, A. P.
McLeod, Miss Minnie
McNeill, A. H.
Monohand, Dan
Norton, Mrs. M.
Palmer, Mrs. T. M.
Palmer, Eugene C.
Reid, Samuel
Rice, O. J.
Simmens, Henry C. T.
Smith, W. H.
Smith, E. R.
Swanson, Mrs. Knute
Tillman, E. H.
Toombs, William A.
Ward, Style
Woods, Louis F.
Wright, D. E.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning May 4.

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (5 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (5 to 8 pounds)	per lb	24
Chops	per lb	26
Cutlets	per lb	26
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	2
Soup	per lb	5
Stew	per lb	9
Corned	per lb., 12, 14,	16
Chuck roast	per lb	13
Pot roast	per lb	15
Rib-roast, second cut (not under 3½ pounds)	per lb	18
Rib-roast, first cut (not under 3 pounds)	per lb	20
Sirloin roast	per lb	21
Rump roast	per lb	21
Porterhouse roast	per lb	21
Steak, Chuck	per lb	14
Round	per lb	15
Rib	per lb	20
Sirloin	per lb	21
Porterhouse	per lb	21
Rump	per lb	21
Tenderloin	per lb	24

MISCELLANEOUS.

Livers—Beef	per lb	8
Calf	each	60
Half	each	30
Sausage—Pork	per lb	17
Bologna	per lb	14
Frankfurter	per lb	14
Leberwurst	per lb	14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	25
Eggs, fresh	dozen	*28
Oysters, in 1-quart kegs	keg	55
Oysters, in ½-gallon kegs	keg	90
Shads	each	75
Shad Roes	pair	40

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, large	each	1.50
medium	each	1.30
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese	each	2.50
Pheasants	each 70,	1.00
Partridges	each	50
Grouse	each	85

CURED AND PICKLED MEATS.

Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Sugar cured	per lb	*20
Sugar-cured, sliced	per lb	*24
Half, for boiling	per lb	*21
Boiled	per lb	28
Hocks	per lb	‡8
Bacon—Breakfast, whole piece	per lb	28
Breakfast, sliced	per lb	29
Beef, salt, family	per lb	9
Pork, salt, family	per lb	18
Ox tongues	each	80
Pigs' feet	per lb	10
tongues	per lb	16
Mutton, mess	per lb	7

DAIRY PRODUCTS.

Butter—Creamery special	per lb	40
Cheese—Roquefort	per lb	38
Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	26
Edam	each	1.00
Neufchatel	each	6
Gouda	per lb	34
Milk, Briarcliff	bottle	**25

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	8
Lettuce	per hd	8, 12, 16
Cucumbers	per lb	12
Potatoes, white,	per lb	2½
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	†5
Tomatoes	per lb	8
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	3
Cabbage	per lb	4
Rhubarb	per lb	7
Lemons	dozen	24
Apples	per lb	*5
Tangerines	each	2
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4
Pineapples	each	18

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending May 11, 1910, (75th meridian time):

DATE.	High.	Low.	High.	Low.
	A. M.	A. M.	P. M.	P. M.
May 5	....	6.10	12.20	6.46
May 6	12.53	7.10	1.20	7.42
May 7	1.51	8.03	2.12	8.33
May 8	2.42	8.53	3.00	9.21
May 9	3.30	9.42	3.47	10.08
May 10	4.17	10.28	4.32	10.55
May 11	5.02	11.16	5.18	11.40

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Supplies for Canal Work.

The following steamers, with supplies for the Isthmian Canal Commission, arrived at the ports of Cristobal and Colon, during the week ending April 30, 1910:

Allianca, April 24, from New York, with 41 cases blasting caps for Central Division; 2,199 barrels cement for Atlantic Division; 25 tons rock crusher machinery for Atlantic Division (Porto Bello); 200 bales oakum, 250 kegs bolts, 40 drums lubricating oil, 2,000 kegs lead, 25 tons bolts and nuts, 105 coils rope, 33 bales mops, and 155 coils lead pipe for Mount Hope; and a miscellaneous cargo consisting of 5,760 packages weighing 460 tons.

Sarnia, April 26, from New York, with 100 double beds for stock.

Cristobal, April 27, from New York, with 34,000 barrels cement for Atlantic Division; 84,000 bags cement for Pacific Division.

Abangarez, April 28, from New Orleans, with 31 reels steel cable, 130 cases oil, 1,302 Y. P. cross-ties and 264 bales hay for stock; 55,360 feet Y. P. lumber for Pacific Division; 81 tons car wheels for Gorgona shops; 21 tons steel and 16 tons chain for Central Division; 41,456 feet Y. P. timber for Dry dock store.

Metapan, April 29, from New York with 52 tons angles for stock.

Frieda, April 30, from Baltimore, Md., with 21 tons chain, 23 tons pipe, 12 tons Y's, 1,000 cases gasoline, 59 tons channels and beams, 104 tons track spikes, 500 cases turpentine, 146 cases glass, 16,326 cases dynamite and 200 mattresses for stock; 688 tons structural material for Gatun and Pedro Miguel Locks; 800 cases dynamite for Atlantic Division (Porto Bello).

Sale of Scrap Lumber, Etc.

Sealed bids will be received at the office of the Depot Quartermaster, Isthmian Canal Commission, Mount Hope, C. Z., until 2 p. m., May 7, 1910, from parties desiring to purchase all or any part of 361 cords scrap car lumber, 499 chambers, 2 foot-power stapling machines, 1 paper cutting machine, 3 tablet presses and 46 boxes of staples for stapling machine (the last four items being printing office machinery). Location of all of this material will be furnished upon application to the office of the Depot Quartermaster. At the time and place above mentioned, bids will be opened in the presence of attending bidders, the Government reserving the right to reject any or all bids. Bids must be plainly marked "Proposals for purchase of lumber, chambers and machinery, to be opened May 7, 1910."

C. NIXON,
Depot Quartermaster.

Contract Building.

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., May 6, 1910, and then opened, for the erection by contract of a type-27 house at Ancon. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $150 when the contract is signed.

C. A. DEVOL, *Chief Quartermaster.*

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Advance	P. R. R.	Saturday	Apr. 30
Panama	P. R. R.	Friday	May 6
Allianca	P. R. R.	Thursday	May 12
Colon	P. R. R.	Wednesday	May 18
Advance	P. R. R.	Tuesday	May 24
Panama	P. R. R.	Tuesday	May 31
Allianca	P. R. R.	Monday	June 6
Colon	P. R. R.	Monday	June 13
Advance	P. R. R.	Saturday	June 18
Panama	P. R. R.	Friday	June 24
Allianca	P. R. R.	Thursday	June 30
Colon	P. R. R.	Thursday	July 7
Advance	P. R. R.	Tuesday	July 12
Panama	P. R. R.	Monday	July 18
Allianca	P. R. R.	Saturday	July 23
Colon	P. R. R.	Friday	July 29

CRISTOBAL TO NEW YORK.

Cristobal	P. R. R.	Thursday	May 5
Colon	P. R. R.	Friday	May 6
Advance	P. R. R.	Thursday	May 12
Panama	P. R. R.	Wednesday	May 18
Allianca	P. R. R.	Wednesday	May 25
Colon	P. R. R.	Tuesday	May 31
Advance	P. R. R.	Monday	June 6
Panama	P. R. R.	Sunday	June 12
Allianca	P. R. R.	Saturday	June 18
Colon	P. R. R.	Saturday	June 52
Advance	P. R. R.	Thursday	June 30
Panama	P. R. R.	Wednesday	July 6
Allianca	P. R. R.	Tuesday	July 12
Colon	P. R. R.	Tuesday	July 19
Advance	P. R. R.	Saturday	July 23
Panama	P. R. R.	Saturday	July 30
Allianca	P. R. R.	Thursday	Aug. 4
Colon	P. R. R.	Wednesday	Aug. 10

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

NEW YORK TO COLON.

Zacapa	U. F. C.	Thursday	Apr. 28
Atrato	R.-M.	Saturday	Apr. 30
Almirante	U. F. C.	Thursday	May 5
Prinz Aug. Wilhelm	H.-A	Saturday	May 7
Santa Marta	U. F. C.	Thursday	May 12
Metapan	U. F. C.	Thursday	May 19
Prinz Joachim	H.-A	Saturday	May 21
Zacapa	U. F. C.	Thursday	May 26
Prinz Aug. Wilhelm	H.-A	Saturday	June 4
Metapan	U. F. C.	Friday	June 3
Prinz Joachim	H.-A	Tuesday	June 7
Prinz Aug. Wilhelm	H.-A	Tuesday	June 21

COLON TO NEW YORK.

Metapan	U. F. C.	Friday	May 6
Prinz Joachim	H.-A	Tuesday	May 10
Zacapa	U. F. C.	Friday	May 13
Almirante	U. F. C.	Friday	May 20
Prinz Aug. Wilhelm	H.-A	Tuesday	May 24
Santa Marta	U. F. C.	Friday	May 27

NEW ORLEANS TO COLON.

Atenas	U.F.C.	Saturday	Apr. 30
Turrialba	U.F.C.	Saturday	May 7
Abangarez	U.F.C.	Saturday	May 14

COLON TO NEW ORLEANS.

Abangarez	U.F.C.	Thursday	May 5
Atenas	U.F.C.	Thursday	May 12
Turrialba	U.F.C.	Thursday	May 19

The next sailings of the Leyland Line will be as follows: *Antillian* May 21, *Bolivian* June 11, and *Californian* June 20, for New Orleans, via Kingston, Ja.

Hamburg-American steamers leave for New York at 10 a. m., and for Port Limon every Wednesday at 2 p. m.

Royal Mail steamers leave for New York early in the morning and passengers should be on board the night before.

United Fruit Company ships for New Orleans leave at 3 p. m., and for New York at 10 a. m.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, MAY 11, 1910. No. 37.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

NOTES OF PROGRESS.

Break in Bank of Obispo Diversion.

The bank of the Canal between the Obispo Diversion and Culebra Cut at a point about a mile north of Empire, known as La Pita, gave away on May 7, and allowed the water in the diversion channel to flow into the Cut. Seven steam shovels were flooded and the water in the Cut rose to 55 feet above sea level. The shovels will resume work this week, and temporary repairs to the diversion were begun within an hour after the break occurred.

The Obispo Diversion is the small canal along the east side of Culebra Cut that catches the water from the east slope and diverts it into the Chagres River, thus keeping it out of the Canal. It was begun by the French, and the part where the break occurred is the old French channel broadened by the Americans. Early in April the first evidences of a break appeared, and during that month the bank moved six inches toward Culebra Cut. It is not a movement like the other slides in the Cut, where water soaked earth moves on slick rock, but a bank of rock sliding on rock. The seam in the rock opened before the heavy rains of May began, and it is not believed that the amount of water in the diversion even hastened the break, much less caused it. The break extends from the 95 foot berm of the Canal back to the east edge of the diversion, a distance of about 175 feet, and is about 150 feet long.

The temporary repairs to take care of the drainage during the present rainy season, will consist of a wooden flume constructed about 30 feet west of the broken channel, 150 feet long, 12 feet 4½ inches wide and 9 feet high. It will have a grade of 0.6 per cent. With the water in it 8 feet deep this flume will have a capacity of 2,650 cubic feet of water per second, which is equivalent to the largest flood on record. During the heaviest flood of last year, 1,800 cubic feet per second passed this point, and in an equivalent flood the water in the flume would be 6 feet deep.

East of where the break occurred a dry slide of earth was in progress all during the dry season, and a railroad track had been run into it from the south so that a steam shovel might excavate. This track will now be extended 600 feet north to connect with the track along the edge of the Cut that was broken by the slide. A trestle 212½ feet long is being driven on which the connecting track will cross the diversion channel, and thus a railroad will be in operation behind the slide, and communication along the east bank of the Cut from Gamboa to Gold Hill will be restored.

Slides in Toes of Gatun Dam.

Several slides have occurred in the toes of the west section of Gatun Dam, since the West Diversion channels were closed on April 25, and one of these, on May 5, carried away the diversion trestle and fill on the north or downstream toe. The slides are not caused by the settling of heavy material through the silt of the old channels, as was the case in the slide on the south toe of the east section in November, 1908.

The two channels through which the old diversion crossed the line of the south toe, and the single channel through which it crossed the line of the north toe were closed at the same time. As the fill in these channels increased, the water of the Chagres was forced through openings becoming constantly narrower, and by the time the closing was completed the water had washed out a great hole on the downstream side of each toe. The channels were closed in the face of a rise in the river, and the head of water was sufficient to wash great quantities of spoil into the holes, but not enough to fill them. The sliding of spoil from the toes into the big holes has, therefore, continued, and undoubtedly will continue until they are filled. It is believed, however, that the stage has passed where there was any danger of the south toe opening again and letting the river through the old channel, in which event the continuation of the hydraulic fill in the west section of the Dam would be impossible until the barriers were reconstructed and the river again confined to the spillway.

The south toe is being strengthened by spoil from Culebra Cut. The two suction dredges at work south of the Dam have constructed a dyke of sand across the upstream face of the toe, where it crosses the old channels, thus virtually waterproofing the loose fill and preventing seepage. The hydraulic fill between the toes of the west section has been resumed.

The slide which carried away the trestle and opened the north toe of the Dam began on April 30. In the area between the toes, which had been enclosed by the filling of the diversion channels, water collected from rains, from seepage through the loose rock and earth fill of the old channels, and from the hydraulic fill, but up to April 30 it escaped through the drainage pipe that had been placed in the north toe at the old channel. On that day a slide of the material in the old channel moved the trestle five feet down stream, and although this fault was corrected and the toe restored by dumping spoil, the drainage pipe was broken and its capacity was reduced. On May 5 the water between the two toes stood at 16 feet above sea level, which was higher than the water in the lake south of the Dam. Late that afternoon, without any previous signs of giving away, the trestle and fill on the north toe across the old diversion channel slid downstream into the hole just below the line of the toe. The water held within the Dam up to that time rushed through the opening, and it is estimated that from 10,000 to 15,000 cubic yards of material disappeared almost instantly.

A pile driver was set at work at once to restore the trestle and the gap will be closed this week. The damage caused by this slide is the cost of the trestle. The hole below the line of the toe would have been filled in any event and the material washed into it aids in this filling. One of the suction dredges at work on the north side of the Dam will be brought from its present position in front of the east section to complete the filling of the hole, and it will also reinforce the north toe at the trestle with a dyke of waterproof material.

First Passenger Train Over Relocated Line.

The first passenger train to go over the relocated line of the Panama railroad between Gatun and Gamboa made the trip on Sunday, May 1. It consisted of two private cars, a baggage car, and an observation car, and was drawn by a small locomotive because the condition of the tracks made it unsafe for a large one to run.

Canal Work in April.

The grand total of Canal excavation in April was 2,632,468 cubic yards, of which 2,601,347 cubic yards were charged to "work excavation" and 31,121 cubic yards to "plant." The dry excavation amounted to 1,884,278 cubic yards and was principally by steam shovels. The dredges removed 748,190 cubic yards in addition to the amount pumped into Gatun Dam by suction dredges. The progress on the locks at Gatun and Pedro Miguel is referred to elsewhere in this issue.

In the Atlantic Division, the total excavation was 314,486 cubic yards. Of this total, 103,243 cubic yards were dry excavation and the remainder was removed by the dredges in the Atlantic entrance.

The total excavation in the Central Division was 1,723,339 cubic yards, all but 5,717 cubic yards of which was chargeable to work excavation.

In the Pacific Division, the total excavation was 594,643 cubic yards, all but 57,696 cubic

NOTES OF PROGRESS.

(Continued.)

yards of which was taken out by dredges at work in the Pacific entrance.

A detailed statement of work in the three divisions follows:

ATLANTIC DIVISION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, Dam and Spillway	103,243	....	103,243
Mindi	....	....	....
Total	103,243	....	103,243
Wet excavation—			
Atlantic entrance	190,574	20,669	211,243
Locks, Dam and Spillway	....	....	....
Total	190,574	20,669	211,243
Total wet and dry excavation	293,817	20,669	314,486
CENTRAL DIVISION.			
All dry excavation—			
Culebra Cut	1,283,069	5,717	1,288,786
Chagres section	428,777	....	428,777
Obispo Diversion	5,776	....	5,776
Total	1,717,622	5,717	1,723,339
PACIFIC DIVISION.			
Dry excavation—			
Locks, Dams and Spillways	20,832	2,110	22,942
Diversions	445	....	445
Prism, south of Pedro Miguel Locks	34,309	....	34,309
Total	55,586	2,110	57,696
Wet excavation—			
Pacific entrance	534,322	2,625	536,947
Miraflores Locks	....	....	....
Diversions	....	....	....
Total	534,322	2,625	536,947
Total wet and dry excavation	589,908	4,735	594,643
TOTAL CANAL EXCAVATION.			
Dry excavation	1,876,451	7,827	1,884,278
Wet excavation	724,896	23,294	748,190
Total	2,601,347	31,121	2,632,468

Mean rainfall along Canal (eleven stations) 5.08 inches.

By "Work" Excavation is meant excavation actually made for one of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc.; that is, it represents material taken from the area to be occupied by the Canal, and constitutes excavation useful for the completed Canal.

By "Plant" Excavation is meant excavation outside of any of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc. It includes material necessary to be excavated for construction purposes only and is chargeable against the particular plant item for which it is performed, such as Prism, Diversions, Locks, etc.

DAM AND LOCK CONSTRUCTION.

MATERIAL.	Atlantic.	Pacific.	Total.
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Fill placed in dams	505,877	43,394	549,271
Concrete laid in dams and spillways	8,358	....	8,358
Concrete laid in locks	63,227	24,535	87,762

Changes in Central Division Organization.

The resignation of L. K. Rourke as Assistant Division Engineer of the Central Division has been accepted and he will leave for the States on May 31. He entered the Canal service in December, 1905, and held successively the positions of Superintendent of Tracks, Superintendent of Tracks and Dumps, Assistant Division Engineer of the Culebra Division, Division Engineer of the Culebra Division, and Assistant Division Engineer of the Central Division. He has accepted the office of Superintendent of Streets of Boston.

On May 1 the position of general superintendent of construction of the Central Division was created, and effective on the date of Mr. Rourke's resignation the position of Assistant Division Engineer will be abolished. George A. Greenslade, formerly superintendent of construction in the Tabernilla District of the Central Division, has been appointed to the newly created position. He will have charge of and supervision over the district superintendents of construction, superintendent of transportation and superintendent of pipe lines, and will report direct to the Division Engineer.

The number of construction districts in the Central Division was reduced on May 1 from five to four, the new subdivisions being as follows:

Chagres District—From Gatun to the Chagres River at the beginning of Culebra Cut, comprising the territory of the old Chagres Division; superintendent, J. W. Sneed.

Empire District—From the beginning of Culebra Cut at Gamboa to the suspension bridge across the Cut at Empire; superintendent, D. E. Crowley.

Culebra District—From the suspension bridge at Empire to the Panama railroad bridge across the Canal at Paraiso; superintendent, Joseph Little.

Pedro Miguet District—From the bridge at Paraiso, south, including the dumps at Miraflores, and the Naos Island breakwater dump; superintendent, W. T. Reynolds.

Pacific Division Sand Output.

During April 29,876 cubic yards of Chamé sand were shipped from the sand dock at Balboa to various parts of the Isthmus, 2,193 cars being required to carry it. The amounts were as follows:

	Cubic Yards.
Pacific Division	20,949
Atlantic Division	7,493
Central Division	445
Panama railroad	100
Quartermaster's Department	97
Shipways (Pacific Division)	27
Private purchasers	765
Total	29,876

Cartago Earthquake.

The seismographs at Ancon observatory recorded a considerable disturbance between 7 and 8 o'clock on the night of May 4. The location of the disturbance was reported as being within about 200 miles of the observatory, probably in a westerly direction. No movement was reported as having been felt anywhere on the Isthmus, except that which was recorded by the instruments at Ancon. This is the only seismic disturbance that can be identified with the earthquakes reported to have caused great damage in Costa Rica.

At the time of the Cartago earthquake on May 4 there were 22 employes of the Commission on vacation in Costa Rica. The Chairman of the Commission sent a message to the American Consul at San José asking if any Canal or Panama railroad employes had been killed or injured, and word was returned on May 9 that all of them had escaped without injury. In reply to an offer of assistance the Consul General at San José requested the Commission to send 250 tents and 500 blankets to him at Cartago, and this was promptly done. Lt.-Col. C. A. Devol, President of the Canal Zone Red Cross, dispatched $500 from the Canal Zone Red Cross funds, and reported the disaster to the National headquarters at Washington, which immediately sent $5,000. A series of benefit performances for the Cartago sufferers is being arranged by the local Red Cross organizations. The entertainments will be given by local talent in the various villages along the line of the Canal, and will end with a grand entertainment at the National Theater in Panama. One will be held in Gatun on Saturday night, May 14.

Accommodations on the Panama.

All available accommodations on the *Panama*, scheduled to sail from Cristobal on May 18, having been assigned, no further requests for tbis sailing will be issued from the office of the Chairman.

Rainfall, May 1 to 7, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS	Maximum in one day.	Date	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.33	6	3.29
Balboa	1.43	6	2.70
Miraflores	.75	6	1.50
Pedro Miguel	1.55	6	2.25
Rio Grande	2.46	7	3.30
Central Section—			
Culebra	3.01	7	3 84
Camacho	2.56	7	3.49
Empire	3.35	7	4.86
Gamboa	3 40	7	3.80
Alhajuela	1.48	7	2.31
El Vigia	1 25	7	2.14
San Pablo	.86	7	1.71
Tabernilla	1 05	7	2.51
Bohio	2.07	4	4.56
Gorgona	1.10	7	1.63
Atlantic Section—			
Gatun	1.92	7	3.27
Brazos Brook	1.33	7	2.92
Cristobal	1.56	7	3.15

April Rainfall for Three Years.

STATION.	1908.	1909.	1910.	Station average.	Years of record.	No. rainy days—1910.
Pacific Section—	*Ins.*	*Ins.*	*Ins.*			
Ancon	1.37	2.92	3.71	2.47	12	21
Balboa	.76	2.83	3.63	3.92	12	15
Miraflores	......	2.30	5.15	3.72	2	17
Pedro Miguel	1.17	2.32	5.16	2.88	3	16
Rio Grande	2.00	2.63	5.36	3.05	6	17
Central Section—						
Culebra	1.67	2.56	5.35	3.78	20	14
Camacho	1.90	2.64	6.92	2.92	4	24
Empire	1.36	3.33	4.24	3.65	6	14
Gamboa	2.65	5.55	3.85	3.62	29	18
Alhajuela	4.61	3.54	2.99	3.34	11	18
El Vigia	......	2.32	2.33	2.32	2	19
Gorgona	......	......	5.79	3.18	5	18
San Pablo	3.39	5.50	6.52	5.14	3	26
Tabernilla	2.37	6.30	6.29	4.99	3	24
Bohio	2.16	7.23	6.46	5 84	16	21
Trinidad	3.40	6.96	9.28	6.55	3	23
Monte Lirio	3.63	7.18	7.01	5.94	3	24
Atlantic Section—						
Gatun	1.47	4.03	4.97	3.64	6	18
Brazos Brook	1.33	6.23	5.59	3.56	4	21
Cristobal	1.27	3.56	3.30	4.19	40	19
Porto Bello	......	12.56	7.14	8.56	3	25

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, May 1, 1910.

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Lake.)
Height of low water above sea-level, ft.	125	92	46	0	0
Maximum height ab. mean sea-level, feet:					
Sunday, May 1	127.6	94.6	48.1	15.3	15.1
Monday, May 2	126.8	94.1	47.3	15.2	15.1
Tuesday, May 3	127.0	94.0	47.2	15 0	14.9
Wed'esday, May 4	130.4	96.3	49.2	15.0	14.9
Thursday, May 5	129.2	95.9	49.5	15.7	15.3
Friday, May 6	136.3	99.9	54.5	17.5	15.7
Saturday, May 7	133.2	98.1	52.8	18.0	16.7

CONCRETE IN THE LOCKS.

Progress at Gatun and Pedro Miguel.

Concrete work in Gatun Locks, exclusive of the approach walls for which plans have not yet been completed, is 16.7 per cent accomplished. The placing of concrete is still confined to the upper or lake-level locks, and 39 per cent of the amount to be laid there has already been placed.

The floor of the upper locks is finished. The east pivot pier of the emergency dam is completed as far as it can be at present, and the east wall is rapidly nearing completion. Two monoliths in the west wall are finished and the construction of three others is in progress. The cast steel sections supporting the reaction bearings for the gates are being set in the concrete. These castings weigh from five to ten tons each, and are set with great care in order that the face of each piece may be as nearly vertical as possible. The reaction bearings are of nickle steel, and they will be fixed in the large castings and adjusted by means of set screws in order that the face may be vertical. After they are set habbitt will be poured between the castings, making a tight fit.

Plans for the monoliths that will form the gate recesses in the walls have been approved and work has been begun on the forms. Owing to the curved surface which these monoliths will present, the movable steel forms of the other wall monoliths cannot be used. The type of forms successfully used in the locks at Pedro Miguel will probably be adopted for the wood forming of the curved monoliths.

Resistance thermometers for recording the temperature changes during the setting of the concrete have been installed, three in one of the side wall monoliths, and two will be placed in center wall monoliths. The recording instrument is in the office of the resident engineer for the locks.

A statement of concrete laid in the Locks at Gatun follows:

	Cubic Yards.		
	Large stone.	Concrete.	Total.
May 2	99	2,580	2,679
May 3	82.5	2,987	3,069.5
May 4	82	2,590	2,672
May 5	40	2,072	2,112
May 6	155	2,762	2,917
May 7	75.5	2,436	2,511.5
Total	534	15,427	15,961
Previously reported	....	....	350,129
Grand total	....	....	366,090

A statement of the concrete laid in the Locks at Pedro Miguel follows:

	Cubic Yards.		
	Large stone.	Concrete.	Total.
May 2	....	982½	982½
May 3	24	1,372½	1,396½
May 4	18	1,434½	1,452½
May 5	14	1,027	1,041
May 6	12	1,302	1,314
May 7	....	1,298	1,298
Total	68	7,416½	7,484½
Previously reported	....	....	108,873
Grand total	....	....	116,357½

Old and New Buildings.

Laborers' barracks at Caimito, Mamei, and San Juan have been taken down and the lumber transferred to Nombre de Dios where it will be used in building 73 shacks, or huts, for the natives whose homes were burned in the fire at that place on April 8.

The lumber of seven laborers' barracks at Camp Bierd, Cristobal, and the Spanish mess halls at Mamei, and Juan Grande, will be used at Toro Point in the construction of barracks for the men at work on the breakwater. The contracts for constructing one type-27 house, two type-18 houses, and three type-14 houses at Toro Point, and a type-27 house near the asylum for the insane at Ancon have been let to James A. Wilson.

For the accommodation of employes residing at San Pablo, who are now obliged to go to Gorgona or Tabernilla to make purchases at the commissaries, an old building will be converted into a commissary store at a cost of $250.

Central Division Track Shifting.

Tracks were raised and thrown during the month of April by the Central Division track shifters as follows:

Shifter No.	Location.	Amount.
		Feet.
No. 5	Tabernilla	216,240
No. 6	Mamei	15,600
No. 7	Santa Cruz, relocation	255,516
No. 9	Santa Cruz	21,394
No. 1	Points 1, 2, 3	28,865
No. 8	Miraflores	131,740
No. 2	Balboa	226,200
Total	....	*895,555

*Or 169.61 miles.

Central Division Unloaders

A statement of Lidgerwood cars unloaded on Central Division dumps during the month of April follows:

Location.	No. of unloaders.	No. of trains.	No. of cars.
Balboa	3	916	17,404
Miraflores	3	767	14,573
Gamboa	2	632	11,901
Tabernilla	3	915	17,385
Total	11	3,230	61,263

An examination for colored teachers will be held in the Ancon school building on Saturday, May 28. The time of the morning session is from 8 to 12 o'clock, and the afternoon session from 1.30 until 5.

Plans for Fourth of July Celebration.

Plans for the celebration of the Fourth of July by the Americans on the Isthmus were advanced at a meeting of the executive committee held in Ancon on May 7. The chair men of the various committees reported the organization of the committees and made estimates of the amount of money that would be required for the celebrations at Ancon and Cristobal, the total for both celebrations being $4,350. Of this total it is estimated that $2,000 will be spent on the various amusements, $1,300 on fireworks, $700 on dancing and $200 on music. The decorations used last year are available and there will be little additional expense on this account. Free transportation will be given between Colon and Panama to Americans, as in previous years, but it is probably that this will apply only to employes of the Canal Commission and of the Panama Railroad and that a ticket will be issued to each employee. The Commission band has been assigned to Cristobal and the Marine band to Ancon for the entire day. A dance will be held in Cristobal at an estimated expense of $300 and one in Ancon at an estimated expense of $400, and the fireworks will be divided, $600 worth to Cristobal, $600 worth to Ancon, and $100 worth to the leper settlement at Palo Seco. In Ancon the display will be made in front of the Hotel Tivoli, and in Cristobal from a barge anchored in the harbor. The subscription lists have been issued to the heads of the various divisions, and a prompt response is requested in order that the latitude of the celebrations may be determined by the amount of the subscription.

Shovel and Dredge Men.

Local No. 19, I. B. of S. S. and D. M., will hold its regular monthly meeting on Sunday, May 15, at the I. C. C. lodge hall, at Empire, at 2.30 p. m. Important business will be transacted. It is very important that all brotherhood men attend this meeting.

WALTER P. TUDOR,
Secretary and Treasurer.

Empire, May 7, 1910.

STATEMENT OF CLASSIFIED EXPENDITURES TO MARCH 31, 1910.

	Department of Civil Administration.	Department of Sanitation.	Department of Construction and Engineering.	General Items.	Total.
Total to June 30, 1909	$3,427,090.29	$9,673,539.28	$69,622,561.42	$78,022,606.10	$160,745,797.09
1909—					
July	64,209.14	140,580.90	1,593,250.14	274,418.57	2,072,458.75
August	49,771.51	150,123.15	1,709,471.48	242,189.42	2,151,555.56
September	57,868.94	153,406.14	1,911,262.84	217,335.42	2,339,873.34
October	61,740.56	159,391.49	2,022,010.34	431,288.66	2,674,431.05
November	65,088.00	156,646.64	1,853,495.96	229,497.97	2,304,728.57
December	59,076.20	150,401.41	2,102,637.61	336,668.91	2,648,784.13
1910—					
January	82,756.89	163,379 71	2,673,797.41	412,915.15	3,332,849.16
February	59,251.83	136,941.46	2,126,328.26	*195,770.76*	2,126,750.79
March	60,522.35	136,390.97	2,344,711.03	392,015.14	2,933,639.49
Total	$3,987,375.71	$11,020,801.15	$87,959,526.49	$80,363,164.58	$183,330,867.93

WEATHER CONDITIONS, CANAL ZONE, APRIL, 1910.

Stations.	Press're (reduc'd to mean of 24 hours.)	Temperature.					Mean relative humidity.	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches.	Station average.	Number of rainy days.	Total movement (in miles.)	Prevailing direction.	Max. velocity (in miles.)	Direction.	Date.
Cristobal	29.862	79.2	84	24	73	10	84	3.30	4.19	19	9,451	N.	27	N.E.	1
Culebra	29.856	79.0	91	24	69	10	88	5.35	3.78	14	6,086	N.W.	30	N.	23
Ancon	29.843	80.4	92	4	70	2	87	3.71	2.47	21	5,837	N.W.	24	N.W.	9

RECORD OF CANAL WORK SINCE AMERICAN OCCUPATION.

MONTHLY TOTALS BY CUBIC YARDS OF EXCAVATION AND LOCK AND DAM CONSTRUCTION.

[*All figures are of work useful for the completed Canal.*]

DRY EXCAVATION.

CENTRAL DIVISION.

MONTHS.	CULEBRA SECTION.*							CHAGRES SECTION.**			
	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1907.	1908.	1909.	1910.
January	......	70,650	120,990	566,750	1,227,022	1,150,249	1,323,693	......	169,447	389,399	175,802
February	......	75,200	168,410	639,112	1,248,265	1,215,648	1,259,173	......	200,145	428,988	286,309
March	......	132,840	239,178	815,270	1,290,885	1,434,597	1,509,728	......	324,233	619,491	484,846
April	......	126,749	213,177	879,527	1,242,574	1,274,356	1,288,845	......	329,483	508,410	428,777
May	27,556	75,935	196,209	690,365	960,840	1,126,963	......	......	235,902	386,170	......
June	32,551	76,905	212,623	624,586	1,134,032	1,242,134	......	......	322,145	275,900	......
July	31,599	78,570	159,789	770,570	1,121,325	1,200,828	......	......	345,757	233,897	......
August	35,056	49,210	244,823	786,866	1,173,800	1,173,370	......	2,900	366,810	231,543	......
September	25,220	44,085	291,452	753,468	1,122,860	1,235,978	......	21,546	346,948	235,818	......
October	19,695	52,940	327,009	834,499	1,160,101	1,302,901	......	25,627	424,911	221,409	......
November	28,860	60,540	221,642	790,632	1,022,576	1,070,792	......	44,044	336,390	93,619	......
December	42,935	70,630	307,689	1,025,485	1,210,046	1,152,022	......	98,652	383,948	105,044	......
Totals	243,472	914,254	2,702,991	9,177,130	13,914,326	14,579,838	5,381,439	192,769	3,786,119	3,729,688	1,375,734

MONTHS.	ATLANTIC DIVISION.					PACIFIC DIVISION.					
	COLON (MINDI)†		GATUN LOCKS, DAM AND SPILLWAY.††			PEDRO MIGUEL LOCKS.‡			MIRAFLORES LOCKS, DAMS AND SPILLWAY.‡‡		
	1909.	1910.	1908.	1909.	1910.	1908.	1909.	1910.	1908.	1909.	1910.
January	45,664	......	292,155	102,690	125,011	......	83,726	27,320	7,203	61,202	31,479
February	46,046	......	282,797	95,031	123,738	......	58,242	9,486	39,046	53,689	15,300
March	70,713	......	374,598	90,051	132,007	......	95,624	6,784	73,194	51,417	18,184
April	74,368	......	373,456	70,009	103,243	......	101,365	9,129	98,943	60,060	12,148
May	71,407	......	266,747	52,786	......	......	57,523	......	73,023	47,588	......
June	80,101	......	244,951	36,556	......	13,228	70,971	......	68,691	55,653	......
July	82,378	......	213,359	39,058	......	22,648	77,503	......	104,369	50,999	......
August	66,249	......	188,262	40,346	......	22,217	58,025	......	94,248	35,446	......
September	61,437	......	145,990	49,945	......	28,833	48,825	......	90,923	31,803	......
October	72,643	......	154,064	57,321	......	48,875	39,002	......	74,700	25,349	......
November	42,009	......	118,278	63,452	......	55,401	20,207	......	52,930	18,644	......
December	......	......	119,904	96,590	......	65,578	28,342	......	69,650	20,083	......
Total	713,015	......	2,774,561	793,835	483,999	256,780	739,355	52,719	846,920	511,933	77,111

*Total to May 1, 1910, 46,913,450 cubic yards.

**Total to May 1, 1910, 9,084,310 cubic yards.

†Total to May 1, 1910, 1,476,821 cubic yards; in this total are included 172,851 cubic yards removed in 1907, and 590,955 cubic yards removed in 1908.

††Total to May 1, 1910, 5,419,202 cubic yards; in this total are included 26,628 cubic yards excavated October to December, 1906, and 1,340,179 cubic yards in 1907; there were also 38,425 cubic yards removed by dredges at Gatun Dam site in 1907.

‡Total to May 1, 1910, 1,048,854 cubic yards.

‡‡Total to May 1, 1910, 1,435,964 cubic yards; there were also 78,233 cubic yards excavated at Balboa locks and dams in 1907; and 206,551 cubic yards at different points in prism to May 1, 1910.

WET EXCAVATION.

MONTHS.	ATLANTIC DIVISION.						PACIFIC DIVISION.						
	ATLANTIC ENTRANCE.§				GATUN LOCKS.		PACIFIC ENTRANCE.§§						Miraflores Locks.§§§
	1907.	1908.	1909.	1910.	1908.	1909.	1905.	1906.	1907.	1908.	1909.	1910.	1910.
January	111,100	490,701	521,050	510,055	......	97,043	......	95,940	94,710	460,250	469,529	518,936	......
February	110,002	427,722	444,910	493,448	......	132,291	......	95,940	93,480	663,519	671,477	285,791	......
March	84,145	546,886	461,208	412,325	......	141,838	......	116,820	92,319	783,281	865,696	462,588	......
April	69,889	496,366	470,635	190,574	......	17,938	......	110,700	104,855	676,539	731,767	534,322	......
May	133,847	564,386	315,370	......	......	52,011	......	112,340	122,157	530,466	720,753	......	......
June	124,118	572,749	182,575	......	......	38,829	50,676	62,697	133,575	656,621	844,685	......	......
July	109,922	625,497	348,451	......	......	......	41,533	98,400	108,338	696,170	733,181	......	......
August	194,297	638,217	422,846	......	......	......	54,530	111,930	168,284	737,774	623,263	......	......
September	403,842	624,776	410,574	......	......	......	114,308	105,780	153,975	750,080	662,976	......	......
October	415,120	505,260	314,778	......	......	......	81,836	97,170	357,122	762,276	720,920	......	......
November	422,797	570,832	457,889	......	......	......	71,176	92,988	365,423	609,089	627,791	......	......
December	442,835	679,604	489,121	......	8,583	......	71,094	90,528	349,551	729,960	727,460	......	......
Totals	2,621,914	6,742,996	4,839,407	1,606,402	8,583	479,950	485,153	1,191,233	2,143,789	8,056,025	8,399,498	1,801,637	......

§Total to May 1, 1910, 17,238,184 cubic yards; in this total are included 399,820 cubic yards excavated in 1905, and 1,027,645 cubic yards in 1906.

§§Total to May 1, 1910, 22,077,335 cubic yards; there were also 172 cubic yards removed by steam shovels during October, 1908.

§§§Total to May 1, 1910, 309,647 cubic yards, all of which was taken out by dredge in 1909.

CONCRETE IN LOCKS AND DAMS.

MONTHS.	GATUN LOCKS.			PEDRO MIGUEL LOCKS.			MIRAFLORES LOCKS.	
	1909.	1910.	1911.	1909.	1910.	1911.	1909.	1910.
January	......	54,136	......	......	16,273	......	......	......
February	......	55,696	......	......	13,218	......	......	146
March	......	60,998	......	......	18,793	......	......	314
April	......	63,227	......	......	24,522	......	......	13
May	......	......	......	......	......	......	......	......
June	......	......	......	......	......	......	......	......
July	......	......	......	......	......	......	28	......
August	1,298	......	......	......	......	......	74	......
Sept	12,294	......	......	2,370	......	......	......	......
October	29,378	......	......	8,310	......	......	......	......
Nov'mber	30,270	......	......	10,169	......	......	......	......
December	42,832	......	......	13,007	......	......	......	......
Total	116,072	234,057	......	33,856	72,806	......	102	473

From March 17, 1909, to May 1, 1910, there were placed in the Spillway of Gatun Dam 78,940 cubic yards of concrete, including 8,358 cubic yards placed in April, 1910; in Miraflores Dam there were placed 321 cubic yards up to May 1, 1910.

FILL PLACED IN DAMS.

MONTHS.	GATUN.*		PEDRO MIGUEL.†	MIRAFLORES.‡	
	1910.		1910.	1910.	
	Wet.	Dry.	Dry.	Wet.	Dry.
January	178,254	236,994	......	......	28,151
February	292,215	271,788	11,510	......	1,438
March	332,661	210,387	22,860	......	5,385
April	242,440	263,437	31,394	......	......
May	......	......	......	......	......
June	......	......	......	......	......
July	......	......	......	......	......
August	......	......	......	......	......
September	......	......	......	......	......
October	......	......	......	......	......
November	......	......	......	......	......
December	......	......	......	......	......
Total	1,045,570	982,606	65,764	......	34,974

*Dry fill begun in January, 1907, and 2,096,477 cubic yards of wet, and 2,405,890 cubic yards of dry fill were placed in 1907, 1908 and 1909.

†170,166 cubic yards placed in dams up to December, 1909, inclusive.

‡138,587 cubic yards of wet fill and 472,091 cubic yards of dry fill were placed in dams up to December, 1909. There were also 97,420 cubic yards of backfill for locks placed up to May 1, 1910.

CANAL EXCAVATION TO DATE.

By French Companies		78,146,960
French excavation useful to present Canal		29,908,000
By Americans—		
Dry excavation	65,663,557	
Dredges	40,152,124	
Total		105,815,681
May 4 to December 31, 1904	243,472	
January 1 to December 31, 1905	1,799,227	
January 1 to December 31, 1906	4,948,497	
January 1 to December 31, 1907	15,765,290	
January 1 to December 31, 1908	37,116,735	
January 1 to December 31, 1909	35,096,166	
January 1 to April 30, 1910	10,846,294	

TOTALS BY DIVISIONS AND AMOUNT TO BE EXCAVATED.

DIVISIONS.	Amount excavated.		Remaining to be Excavated.	
Atlantic—				
Dry excavation	6,896,023	24,661,165	2,665,888	18,416,145
Dredges	17,765,142		15,750,257	
Central—				
Culebra Cut	46,913,450	55,997,760	31,128,845	33,796,733
All other points	9,084,310		2,667,888	
Pacific—				
Dry excavation	2,769,774	25,157,756	3,160,806	16,638,035
Dredges	22,386,982		13,477,229	
Grand totals		105,815,681		68,850,913

DYNAMITE, CAPS, FUSE.

Supplies Required for Fiscal Year 1911.

The amount of dynamite that will be required for carrying on the Canal work in the fiscal year 1911, is estimated at 13,727,000 pounds, and bids on this amount will be asked in the United States during the next few days. There is no doubt that at least 50 per cent of this amount will be required and it is possible that the entire quantity will be used. The contract will be made on the basis of at least 50 per cent being used. The first deliveries will be required about August 15, following the final shipment under the present contract. The quantity required each month will not be decided upon until after the contract is made. A statement of the amounts of dynamite used prior to the fiscal year 1910, and the amounts estimated for 1910 and 1911, follows:

Year.	*Pounds.*	*Year.*	*Pounds.*
1904*	500,000	1909	8,270,000
1906	1,400,000	1910	9,282,000
1907	5,087,000	1911	13,727,000
1908	6,822,000		

*Dynamite purchased in 1904 lasted through 1905.

Of the total estimated for 1911, there will be required 8,540,000 pounds of 45 per cent dynamite in sticks 8 inches long and 1¼ inch in diameter. The remainder will be 60 per cent dynamite, 134,000 pounds in sticks 4 by 1¼ inch, 4,953,000 pounds in sticks 8 by 1¼ inch, and 100,000 pounds in sticks 16 by 2 inches.

The estimate for dynamite by divisions is as follows:

Division.	45 per cent, 1¼ by 8.	60 per cent, 1¼ by 8.	60 per cent, 1¼ by 4.	60 per cent, 2 by 16.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*
Atlantic	1,550,000	1,723,000	134,000	....
Central	4,800,000	2,400,000	....	....
Pacific	1,230,000	830,000	....	100,000
Panama railroad	960,000	....	....	....
Total	8,540,000	4,953,000	134,000	100,000

The estimate for blasting supplies by divisions follows:

Class.	Division.			Panama Railroad.	Total.
	Atlantic.	Central.	Pacific.		
Blasting caps	1,020,000	330,000	145,000	18,000	1,513,000
Triple tap fuse, feet	2,798,000	1,030,000	350,000	144,000	4,322,000
10-foot electric fuses	90,300	....	2,500	....	92,800
16-foot electric fuses	34,000	16,000	5,500	....	55,500
20-foot electric fuses	300	72,000	32,500	30,000	134,800
24-foot electric fuses	71,000	72 000	20,500	....	163,500
25-foot electric fuses	60,000	....	....	....	60,000
30-foot electric fuses	1,000	144,000	11,500	36,000	192,500
35-foot electric fuses	....	108,000	5,000	36,000	149,000
40-foot electric fuses	7,000	16,000	2,000	30,000	55,000
50-foot electric fuses	10,000	....	4,000	12,000	26,000
60-foot electric fuses	2,000	250	29,000	9,000	40,250
75-foot electric fuses	....	....	2,000	....	2,000
80-foot electric fuses	....	....	....	3,600	3,600
100-foot electric fuses	....	....	1,000	....	1,000
Total fuses	275,600	428,250	115,500	156,600	975,950
Insulated tape, pounds	240	2,100	2,600	....	4,940
Connecting wire, feet	309,200	1,250,000	60,000	....	1,619,000
Lead wire, feet	15,500	200,000	7,000	....	222,500

Across the Isthmus in Ten Hours.

A walking match across the Isthmus between Edward Silvey of Ancon, and J. P. L. Taylor of Panama, on May 8, was won by Mr. Silvey. The Alcalde of Panama started Mr. Silvey at 5.15 o'clock in the morning and Mr. Taylor at 6 o'clock from the American Wharf in Panama, and the Alcalde of Colon met them on the Fire Department wharf in Colon. Mr. Silvey arrived at 3.34 o'clock in the afternoon, making the distance in 10 hours and 19 minutes, and Mr. Taylor arrived at 6.20 o'clock, time 12 hours and 20 minutes. The line of the Panama railroad was followed and the distance was thus 48 miles. Mr. Silvey was met along the line by friends who provided him with ice, and he wishes to thank them for their assistance.

Visiting Hours at Colon Hospital.

The visiting hours at Colon Hospital on and after May 15, will be as follows:

Monday, Wednesday and Saturday, 2 p. m. to 4 p. m.

Sunday, 9.30 a. m. to 11.30 a. m.; 2 p. m. to 4.30 p. m.

Kindergartens Authorized.

Kindergarten schools are authorized at six different points along the Line; the same to open with the opening of the schools, October 1, 1910. It is desired that all of those wishing kindergarten privileges shall inform this office by letter on or before June 1. Children under four years of age on October 1 will not be admitted. Children who will be six by February 1, 1911, will be eligible to enter the primary grade of the graded schools. In writing to this office, please state the name and date of birth of child for whom the privilege is desired.

FRANK A. GAUSE,
Superintendent of Schools.

Ancon, May 9, 1910.

General Revenues.

The general revenues of the Canal Zone, exclusive of the postal revenues, for the first quarter of the current year were as follows:

Class.	January.	February.	March.
Land rents	$3,462.83	$1,390.88	$2,162.45
Building rents	973.35	410.00	374.00
Distillery licenses	94.06	117.91	175.22
District taxes, licenses, etc	5,409.59	5,429.28	9,622.14
Retail liquor licenses	*31,200.00	....	....
Insurance Co's fees	50.00	50.00	....
Insurance tax on premiums	....	34.34	....
Court fines, costs, etc	3,671.75	3,068.25	3,329.85
Total	$44,861.58	$10,500.66	$15,663.66

* Collected semi-annually.

LOST—At a ball at the Hotel Tivoli on April 30, a pair of long, green silk gloves and a white silk shawl. Finder please notify Mrs. W. O. Kent, House 54-A, Las Cascadas.

PERSONAL.

Col. Geo. W. Goethals, with Mrs. Goethals, sailed for the States on the *Prinz Joachim*, leaving Colon on May 10.

Lieut.-Col. D. D. Gaillard left for the States on his annual leave on the *Cristobal*, which sailed from Cristobal on May 5.

Mr. Maurice B. Thatcher, the new member of the Isthmian Canal Commission, and Mrs. Thatcher, are passengers on the *Panama* due to arrive at Cristobal on May 12.

Mr. M. B. DePutron, who has been in the Canal service since November 9, 1904, has resigned his position as Assistant to the Chairman, to engage in business on the Isthmus.

Mr. Henry Goldmark left for the States on the *Colon* on May 6, to be present in the Washington office to answer questions that may be asked by contractors who wish to enter the competitive bidding for furnishing the leaves of the lock gates.

Friendly Societies.

The officers elected at the institution of Pacific Lodge No. 4, Independent Order of Odd Fellows, Ancon, on Saturday evening, April 30, are as follows: E. E. Price, noble grand; G. C. Ferris, vice-grand; F. W. Sawyer, secretary; E. J. Rall, treasurer. The officers appointed were: Messrs. E. B. McCormick, T. Grozier, L. C. Vannah, A. M. Barnett, C. C. Jackson, A. S. Curtis, C. C. J. Wirz, J. S. George, G. W. Keller, F. A. Feld and F. T. Hamlin. The lodge has 42 members. Meetings are held in Ancon hall on Thursday evenings.

P. R. R. Relocation Steam Shovels.

A statement of the work performed by steam shovels on the relocation of the Panama railroad in April compared with previous months follows:

Period—1910.	Output.	Av. No. steam shovels.	No. of working days.	Output Per Shovel.	
				Per Day.	Per Month
January	206,334	8.24	25	1,002	25,040
February	214,411	7.91	23	1,179	27,106
March	234,571	7.31	26	1,234	32,089
April	212,097	7.15	26	1,140	29,648

The best records made in April were as follows:

Shovel No.	Cubic Yards.		
	Earth.	Rock.	Total.
107	19,125	22,225	41,350
106	31,907	3,000	34,907

Best record for one day, 2,645 cubic yards by shovel 107. All the steam shovels are of the 70-ton class.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending May 18, 1910, (75th meridian time):

Date.	High.	Low.	High.	Low.	High.
	A. M.	P. M.	P. M.	P. M.	P. M.
May 12	5.49	12.03	6.05	....	....
		A. M.	A. M.		
May 13	....	12.29	6.38	12.54	6.55
May 14	....	1.20	7.30	1.47	7.47
May 15	....	2.14	8.27	2.46	8.47
May 16	....	3.14	9.30	3.53	9.58
May 17	....	4.20	10.42	5.13	11.17
May 18	....	5.27	11.52	6.11	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

SOCIAL LIFE OF THE ZONE.

Women's Clubs.

The meeting of the Gatun Woman's Club was held in the clubhouse on Friday afternoon, May 6. The club has formed a hospital relief committee, which will provide clothing for such patients in the local hospital as may be destitute when they leave the hospital. Contributions of such articles of clothing as may be suitable for this purpose are solicited by the club. They may be delivered to the secretary of the Commission clubhouse where they will be kept for distribution on recommendation of the district physician. Communications regarding this committee and its work may be addressed to the president of the club, Mrs. C. H. Stoddard. The juvenile library will be placed in the clubhouse as soon as a locker is provided. The club is planning to hold a social evening for members and their husbands late in May. A class and clubroom has been fitted up in the upper story of the clubhouse and the use of this room has been assigned to the Woman's Club for its weekly meetings. The following chairmen of departments and committees have been appointed for the ensuing three months: Mrs. A. P. McCulloch, literary department; Mrs. N. C. Story, educational department; Mrs. C. S. Carty, home department; and Mrs. W. H. Martin and Mrs. S. B. Harry, refreshment and reciprocity committees respectively.

The meeting of the Gorgona Woman's Club on Thursday, May 5, was held under the home department. At the close of a short business meeting, an informal discussion on club work was held, being led by the president. The basketball and gymnasium classes, which have been organized under the direction of Mrs. T. S. Booz, will be affiliated with the club and report progress to that organization. The departments will be combined in order to concentrate club effort, and meetings will be held semimonthly during the rainy season, instead of weekly.

The meeting of the Pedro Miguel Woman's Club was held at the home of Mrs. W. Piper on Wednesday afternoon, May 4. The business meeting was followed by a social session, refreshments being served. The next social meeting of the club will be held at the residence of Mrs. Mark White, Ancon, on Wednesday afternoon, May 18. There will be cards and a social session.

Church Work.

An entertainment under the auspices of the women's societies of the Methodist Episcopal Church, Panama, was held in the church rooms on Thursday evening, May 5. A program arranged by a committee composed of members of the Ladies' Foreign Missionary Society was rendered. During the evening a collection was taken and the money will be applied to the scholarship maintained by the aid society in the Panama school. The Panama school, which was founded by Bishop Neely in 1904, is under the Foreign Missions Board of the Methodist Episcopal Church, but has been self sustaining from the beginning.

The Ladies' Aid Society in connection with the Empire Baptist Church has instituted weekly sewing meetings, which are held at the homes of members on Wednesday afternoons. The society has 17 regular and 13 associate members. The dues, twenty-five cents a month, are applied toward the purchase of materials. Aprons, bags, and fancy work are made for sale.

The Woman's Altar Guild of St. Luke's Church, Ancon, will hold its meetings on the first and third Tuesdays in each month instead of on Mondays as heretofore. The next meeting will be held at the home of Mrs. Robert E. Noble on Tuesday, May 17, at 3 30 p. m.

The fancy dress ball held at the Commission clubhouse, Culebra, on Wednesday evening, May 4, for the benefit of the Church of the Holy Redeemer, was well attended. It is estimated that $350 was made.

The annual report of the Baptist Church has just been forwarded to the Home Missions Board of the Southern Baptist Convention, under which the work is operated. It shows that there are 11 churches and four mission stations in the Canal Zone, Colon, and Panama, two churches and two mission stations being for American congregations. The total number of baptisms for the year was 125, and the membership of the churches 520. There was collected in the Canal Zone for local work $4,000 and the Home Missions Board contributed $8,000. A new church building was opened in Colon, in October, 1909, and a school was recently opened with 200 pupils. The Home Missions Board has been asked to contribute toward the construction of two new buildings, one at Gatun and the other at Frijoles, on the relocation of the Panama railroad. Three ministers are maintained in the Canal Zone; Rev. J. L. Wise, superintendent, at Gorgona; Rev. S. Moss Loveridge, chaplain to the Zone penitentiary, Culebra; and Rev. J. H. Sobey, Empire. The church has asked the Home Missions Board to send out another man for the work.

Arrangements are in progress for the annual picnic for West Indians of Christ Church parish, Colon, which will be held on Decoration Day, May 30, at the Gorgona baseball park. The proceeds for the day will be devoted to the choir fund.

Obituary.

Mrs. Annie Healey died in Colon Hospital on May 7 after an illness of about three weeks. She was the wife of Geo. W. Healey, a locomotive engineer residing in Gatun, and since last July had been employed in the Gatun commissary. The remains will be sent to New York on the *Advance* on May 12.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Las Cascadas, C. Z., on Sunday, May 15. 1910, at 6 p. m. The program follows:

1 March—*Festal Day* .... Roux
2 Selection—*The Huguenots* .... Meyerbeer
3 Reverie—*Sicilian Chimes* .... Mills
4 Potpourri—*Latest Popular Songs* .... Schulz

Introducing "Yes, She Did," "Under the Chicken Tree," "I'm Tired of Living Without You," "Take Me Out for a Joy Ride," "Where Were You Last Night," "You'll Have to Ask Mother," "Pass dat Possum", "When a Pal of Mine Steals a Girl of Mine," "The Longest Way 'Round is the Sweetest Way Home" "Lonesome," "Rag Time Dance," "Don't Be An Old Maid, Molly," "A Georgia Barn Dance," "We're Almost Home," and "Sun Bird."

5 Waltz—*Impassioned Dream* .... Rosas
6 Overture—*Comique* .... Keler Bela
7 Intermezzo—*Flower Girl* .... Wenrich
8 Fantasia—*My Old Kentucky Home* .... Dalbey
(With variations for different instruments.)
9 Caprice—*Dance of the Nymphs* .... Buglione
10 March—*Victorious Eagle* .... Rosey

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Corozal, C. Z., on Sunday, May 22, at 7.30 p. m.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

The orchestra from the steamship *Prinz Joachim* gave a concert in the reading room of the clubhouse on Monday evening, May 2.

The bowling match with a team from Gatun last Saturday evening resulted in the Gatun team taking two out of three games.

The high score for the evening, 229, was made by Louner of Gatun.

The camera dark room is now finished, and it is the desire of the club to do some work along the line of photography. It is especially desired that the new men in Culebra will come in and join the club.

EMPIRE.

The Empire clubhouse bowling alleys were opened again on May 2, after a week's thorough overhauling.

A farewell social bowling match in honor of Mr. Meade was held on Saturday evening, May 7. Mr. Meade captained the "Munchausen Whirlwinds" who defeated the Arabian Nights.

The Culebra boys defeated the Empire boys in a match game of duck pins on Saturday morning, May 7.

Among the coming events are a public debate, informal smoker and an informal concert.

GORGONA.

The Cristobal Y. M. C. A. minstrels appeared at Gorgona Wednesday night before a crowded house.

The Gorgona bowling team took three straight games from a team from Bas Ohispo on Thursday night.

The gymnasium classes are increasing in size and interest. The past few weeks have been devoted to light calisthenics and work to improve co-ordination. This will be followed by apparatus work and emphasis on corrective exercises. The classes meet Monday and Thursday evenings from 8 to 9 p. m., an hour of brisk work followed by games of a recreative nature. Men are invited to join at any time.

New bowling balls have arrived, an electric fan has been installed in the bowling alley, and the alleys are in fine shape. The high score for last week was 221, rolled by C. H. Hinckley.

GATUN.

A shoe shining stand has been started at the clubhouse and is well patronized.

Class A and B pool tournament will be started Tuesday evening, May 17. There are six players in each class. The winner of class A will play the winner of class B with a twenty-five ball handicap. The final winner will receive a gold medal.

Bowling continues to be the leading sport in Gatun. Over six hundred games were rolled last week. Barte's score of 267 on Friday establishes a new record for Gatun alleys. The four teams composed of the twenty high average men for April, begin a tournament on Tuesday night. Each team will bowl each other team twice.

CRISTOBAL.

A local departmental bowling league series of games will start this week with the following teams: Commissary-Subsistence, Dry Dock, Quartermaster's, Miscellaneous. These are the same teams that played in the Departmental League of 1909. That series was won by the Miscellaneous team with C. E. Gilmore captain. Practically the same men will bowl on these teams this year. The series will close June 7.

The Cristobal Y. M. C. A. basketball team defeated the Empire team on Saturday evening, May 7, by a score of 49 to 27. A return match will be played at Empire, May 21.

An informal musical was held in the game room last Friday night, the following people assisting: Miss Elsey, Messrs. Glick, Robinson, Dayton, McArthur, Einsohn, Jennings, Thomas and the local quartet.

The men's meeting last Sunday was well attended. Next Sunday Mr. Goddard will take as his subject, "Will you rob God?" On May 22 the meeting will be conducted by Mr. F. G. Mixer, and on the 29th Mr. Goodman will conduct a song service.

The standing in the local handball tournament is as follows; Luce, McGinnis, Forstrom, Dibrell, Wehmeier, Shute, Jamieson.

The outing of the Kristobal Kodakers planned for Fort Lorenzo was postponed owing to the high water in the Chagres. A trip to Toro point will probably be made soon.

A business meeting of the chess and checker club was held on Tuesday night for the purpose of electing officers, effecting a general reorganization and the consideration of other matters of interest. Arrangements are completed to entertain the Culebra chess team on Saturday night, May 28.

OFFICIAL CIRCULARS.

Steamship Rates for Employes of the Isthmian Canal Commission.

CULEBRA, C. Z., May 4, 1910.

CIRCULAR NO. 175-B:

The reduced rates quoted below will be accorded employes of the Isthmian Canal Commission, and dependent members of their families, by the steamship lines indicated, upon regular request issued from this office. The reduced rates allowed members of employes' families will be granted only under circumstances identical with those under which the $20 or $30 rate is granted on the vessels of the Panama Railroad Steamship Line, as described in Circular No. 175, dated May 25, 1908, reading in part as follows:

"To wives and dependent children, brothers and sisters of employes who intend to make the Isthmus their home.

"To parents of employes and of employes' wives upon certificate that they are dependent on such employes and intend to make the Isthmus their home."

It will be understood, of course that the reduced rates quoted are granted as a matter of courtesy on the part of the steamship companies, and are subject to change or concellation at any time.

STEAMSHIP COMPANY AND SAILING POINTS.	FIRST CLASS.		SECOND CLASS.	
	Regular tariff.	Reduced rate.	Regular tariff.	Reduced rate.
United Fruit Company.				
Between Colon and New Orleans—One way	$50.00	$40.00	......	......
Between Colon and New Orleans—Round trip Children between 8 and 12 years, half fare; between 3 and 8 years—one way $12.50, round trip $25; one child under 3 years, not occupying seat at table or berth in stateroom, free; each additional child under 3 years—one way $12.50, round trip $25. Sailing every Saturday from New Orleans at 10 a. m., and every Thursday from Colon at 3 p. m. direct to New Orleans, no stop being made at Port Limon.	95.00	75.00	......	......
Between Colon and New York—One way No reduction for round trip. Children between 8 and 12 years, half fare; between 3 and 8 years quarter fare; one child under 3 years free. Sailing every Thursday from New York at 10 a. m., and every Friday from Colon at 10 a. m. via Kingston, Ja. Stop-over allowed at Kingston on through tickets.	75.00	56.25	......	......
Between Colon and Kingston, Jamaica—One way No reduction for round trip. Children same proportion as between Colon and New York. Sailing every Friday from Colon at 10 a. m., and every Wednesday from Kingston at noon.	25.00	18.75	......	......
Hamburg-American Line.				
Between Colon and New York—One way No reduction for round trip. Children between 8 and 12 years, half fare; between 3 and 8 years, quarter fare; one child under 3 years free. Sailing every other Saturday from New York at 2 p. m., and every other Tuesday from Colon at 10 a. m.	75.00	56.25	$45.00	$33.75
Between Colon and Kingston, Jamaica—One way No reduction for round trip. Children same proportion as between Colon and New York. Sailing every other Tuesday from Colon at 10 a. m., and every other Saturday from Kingston.	25.00	18.75	15.00	11.25
Colon to Porto Limon, via Bocas del Toro (Steamships Sarnia and Sibiria)—One way No reduction for round trip. Children same proportion as between Colon and New York. Sailing every other Wednesday from Colon at 2 p. m. Do not return to Colon from Port Limon.	12.00	9.00	9.00	6.75
Between Colon and Port Limon, via Porto Colombia (Steamships Prinz August Wilhelm and Prinz Joachim)—One way Children same proportion as between Colon and New York. Sailing every other Tuesday from Colon at 2 p. m., returning to Colon direct every other Monday. Return reduced rate—First class $9, second class $6.75.	18.00	13.50	12.00	9.00
Pacific Mail Steamship Company.				
Between Balboa and San Francisco—One way No reduction for round trip. Children between 5 and 12 years, half fare; between 2 and 5 years quarter fare; one child under 2 years free. No reduced rates to intermediate points between Balboa and San Francisco. Sailing approximately once a week.	120.00	60.00	......	......
Royal Mail Steam Packet Company.				
Between Colon and New York—One way No reduction for round trip. Children between 8 and 12 years, half fare; between 1 and 8 years quarter fare; one child under one year, free. Sailing every other Wednesday from Colon at 10 a. m., and every other Saturday from New York at 3 p. m.	$75.00	$56.25	$45.00	$33.75
Between Colon and Kingston, Jamaica—One way No reduction for round trip. Children same proportion as between Colon and New York. Sailing every other Wednesday from Colon at 10 a. m., and every other Friday from Kingston at 8 a. m.	25.00	18.75	15.00	11.25
Between Colon and Southampton, England, via Barbados and intermediate points No reduction for round trip. No reduced rates to families of employes. Sailing every other Tuesday.	150.00	112.50	100.00	75.00
Leyland Line.				
Colon to New Orleans—One way No stop at New Orleans on return trip. Children between 8 and 12 years, half fare; between 3 and 8 years, one-third fare; one child under 3 years, free. Sailing approximately once a month.	40.00	35.00	......	......
Colon to Kingston, Jamaica—One way Children same proportion as Colon to New Orleans. Sailing approximately once a month.	15.00	......	......	......
Colon to Tampa, Florida, and other Gulf Ports—One way Children same proportion as Colon to New Orleans. Sailing infrequently.	40.00	35.00	......	......
National Navigation Company.				
Between Panama and Pedregal—One way	15.00	13.50	......	......
Between Panama and Pedregal—Round trip Round trip for family of four occupying one stateroom of four berths, $20 each. Children between 8 and 12 years, half fare; between 4 and 8, quarter fare; under 4, free. Sailing approximately three time a month.	30.00	22.50	......	......
Compagnie Generale Transatlantique.				
Between Colon and Bordeaux, France, via Martinique and intermediate points No reduction for round trip. No reduction to families of employes. Sailing 3d and 20th of each month.	160.00	120.00	130.00	97.50
Between Colon and Saint Nazaire, France, via Martinique and intermediate points No reduction for round trip. No reduction to families of employes. Sailing 3d and 20th of each month.	161.80	121.80	131.20	98.70
Between Colon and Port Limon—One way No reduction for round trip Sailing 16th or 17th of each month.	12.00	9.00	......	......

In addition to the above, a reduction of 25 per cent from regular tariff rates is granted to Isthmian Canal Commission employes and their families on the Spanish line (Compania Trasatlantica de Barcelona) and the Italian line (Navigazione Italiana a Vapore.)

GEO. W. GOETHALS, *Chairman.*

Acting Chairman and Chief Engineer.

CULEBRA, C. Z., May 10, 1910.

CIRCULAR NO. 324:

During my absence from the Isthmus Lt.-Col. H. F. Hodges will be in charge of the work as Acting Chairman and Chief Engineer, effective May 10, 1910.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Acting Division Engineer.

CULEBRA, C. Z., May 5, 1910.

CIRCULAR NO. 321:

Effective May 5, 1910, Mr. L. K. Rourke will act as Division Engineer during the absence of Lieut.-Col. D. D. Gaillard on leave.

GEO. W. GOETHALS, *Chairman.*

Changes in Office of Chairman.

CULEBRA, C. Z., May 5, 1910.

CIRCULAR NO. 322:

The position of Assistant to the Chairman, from which Mr. M. B. DePutron has resigned, is abolished, and the duties heretofore assigned to the position will be performed by Mr. C. A. McIlvaine, Chief Clerk.

Effective this date, Mr. William H. May, Secretary to the Chairman, in addition to his other duties, will assume the duties of the Chief Clerk during the absence on leave of Mr. McIlvaine.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Firemen on Silver Roll.

CULEBRA, C. Z., May 4, 1910.

CIRCULAR NO. 229-H:

After May 1, 1910, no firemen on the silver roll shall be appointed or promoted to the rate of $62.50 a month.

Firemen who are now paid $62.50 a month may be retained at that rate.

GEO. W. GOETHALS, *Chairman.*

Rates for Oilers on Dredges.

CULEBRA, C. Z., May 4, 1910.

CIRCULAR NO. 299-D:

A rate of $55 a month is authorized for oilers on dredges, tugs and clapets.

GEO. W. GOETHALS, *Chairman.*

Boiler Inspection Service Surcharges.

CULEBRA, C. Z., May 1, 1910.

CIRCULAR NO. 169-D:

Effective this date, the provisions of Circular No. 169-B, authorizing a surcharge of 10 per cent on "Other Labor, Without Machinery," shall not be considered to apply to the Boiler Inspection Service, for which a surcharge of 30 per cent shall be added to the Inspector's time.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Rates for Engine and Train Service.

CULEBRA, C. Z., May 3, 1910.

HEADS OF DEPARTMENTS AND DIVISIONS:

The following standard rates per hour shall apply to engine and train service between the different departments and divisions of the Isthmian Canal Commission, and the Panama Railroad Company:

	American Locomotives.	*French Locomotives.*
Engine and train service, including engine crew, train crew; use of locomotive, including fuel, supplies, repairs and depreciation of plant, charge per hour	$8	$6

Switching charges for cars will remain unchanged.

The above schedule is not intended to affect the existing arrangement between the Central and Atlantic Divisions whereby a charge of $9 per hour is made for dirt trains not promptly unloaded.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

BASEBALL.

ISTHMIAN LEAGUE.

RESULTS OF GAMES, MAY 8.

Empire, 2; Marines, 1. Empire, 3; Marines, 2.
Gorgona, 5; Ancon, 1. Gorgona, 4; Ancon, 2.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*
Empire....	23	18	5	.782
Gorgona ...	25	18	7	.721
Ancon......	22	7	15	.318
Marines	26	5	21	.192

SCHEDULE FOR MAY 15.

Marines at Ancon.
Gorgona at Empire.

FIRST GAME.

Marines.	AB.	H.	PO.	A.	E
Scarff, 2b.....	2	0	0	1	0
McGuire, 1b..	3	0	15	2	0
McCabe, c....	3	1	2	4	0
McKelvey, rf.	2	0	0	0	0
Shephard, cf..	3	1	0	0	1
Richards, lf..	2	0	0	0	1
McDowell, ss.	2	0	0	1	1
Fields, 3b.....	2	0	1	1	1
Burns, p......	1	1	0	5	0
*Silke.........	1	1	0	0	0
†Miller........	1	0	0	0	0
‡Munsen......	1	0	0	0	0
Totals.......	23	4	18	14	4

Empire.	AB.	H.	PO.	A.	E
Dixon, ss.....	3	0	1	1	1
Moore, c......	2	0	7	2	0
E. Fluh'ty, 1b	2	0	10	0	0
Murphy, cf....	3	0	1	0	0
Thompson, 2b	2	0	0	0	0
Toone, 3b.....	1	0	0	2	0
Bryan, lf......	2	1	0	0	0
F. Fluh'ty, rf..	2	0	1	0	0
Marshall, p...	1	0	1	4	0
Totals........	18	1	21	9	1

*Batted for McKelvey in the seventh.
†Batted for McDowell in the seventh.
‡Batted for Fields in the seventh.

Marines........................ 0 0 0 0 0 0 1—1
Empire .... 0 1 1 0 0 0 x—2

Runs—Marines: McCabe; Empire: Dixon, Murphy. Run earned—Marines, 1. Sacrifice hits—Richards, Burns, Toone, Marshall. Sacrifice fly—Scarff. Stolen base—Dixon. Bases on balls—Off Burns, 2. Struck out—By Burns, 2; by Marshall, 7. Left on bases—Marines, 4; Empire, 2. Double plays—Burns to McGuire to Fields; McGuire to Scarff. Umpire—Foster. Time of game—1.15. Scorer—L. P. Worrall.

SECOND GAME.

Marines.	AB.	H.	PO.	A.	E
McGuire, 1b..	4	1	5	1	0
Scarff, 2b......	3	0	3	2	2
Burns, lf......	4	1	0	0	0
Shephard, cf..	3	0	1	0	0
Silke, rf......	4	2	1	0	0
McCabe, c....	4	1	6	1	0
McDowell, ss.	2	0	0	1	1
Richards, 3b..	1	0	1	2	2
Munsen, p....	3	1	1	4	2
Totals	28	6	18 *	11	7

Empire.	AB.	H.	PO.	A.	E
Bryan, lf......	3	0	0	0	0
Moore, c......	2	1	6	1	0
Dixon, ss.....	3	1	1	0	0
E. Fluh'ty, 1b.	3	1	9	0	0
Murphy, cf...	2	0	2	0	0
Thompson, 2b	1	0	1	2	2
Toone, 3b.....	3	1	2	0	0
Poke, p........	2	1	0	5	0
Marshall, rf..	3	0	0	0	0
Totals.......	22	5	21	8	2

*Bryan out hit by batted ball, one man out when winning run was scored.

Marines........................ 0 0 0 0 1 0 1—2
Empire........................ 0 1 0 0 1 0 1—3

Runs—Marines: Scarff, Richards; Empire: Bryan, Fluharty, Polk. Run earned—Empire, 1. Two base hits—Toone, Dixon, Polk. Sacrifice hits—Richards, Murphy, Thompson (2). Stolen bases—Bryan, Moore. Bases on balls—Off Munsen, 2; off Poke, 1. Struck out—By Munsen, 4; by Poke, 4. Hit by pitcher—By Munsen, 2; by Polk, 3. Left on bases—Marines, 10; Empire, 7. Umpire—Foster. Time of game—1.20. Scorer—L. P. Worrall.

FIRST GAME.

Gorgona.	AB.	H.	PO.	A.	E
Clements, cf..	3	3	2	0	0
Bath, ss	4	1	1	1	0
Barney, p......	4	1	1	3	0
Wright, 1b....	0	0	9	1	1
Emery, 3b....	3	1	2	1	1
J. Ridge, 2b...	2	0	1	3	0
Kinney, c......	3	0	3	1	0
Culbertson lf.	3	1	2	0	0
A. Ridge, rf...	3	0	0	0	0
*Massen......	0	0	0	0	0
Totals	25	7	21	10	2

Ancon.	AB.	H.	PO.	A.	E
Pearman, 3b..	2	0	0	5	0
Tinsley, ss....	3	0	1	1	1
Hunter, cf....	3	2	1	0	0
Smith, c......	2	0	6	0	0
Keller, 2b.....	3	0	1	1	1
Nygren, 1b....	3	1	7	0	0
Steele, lf.......	3	1	1	0	0
Wrightson, p..	2	0	0	1	0
Tannehill, rf.	2	0	1	0	0
Totals.......	23	4	18	8	2

*Ran for Barney in the third.

Gorgona........................ 0 0 3 1 1 0 x—5
Ancon........................ 0 0 1 0 0 0 0—1

Runs—Gorgona: Clements, Bath, Wright, Culbertson, Massen; Ancon: Steele, Runs earned—Gorgona, 2. Three base hit—Emery. Sacrifice hit—Wrightson. Sacrifide fly—Wright. Stolen bases—Bath (2), Wright, Culbertson, Massen, Smith. Bases on balls—Off Barney, 1; off Wrightson, 3. Struck out—By Barney, 3; by Wrightson, 6. Hit by pitcher—By Wrightson—Wright. Left on bases—Gorgona, 7, Ancon, 4, Umpire—Cooling. Time of game—1.20. Scorer—D. G. Hayes.

SECOND GAME.

Gorgona.	AB.	H.	PO.	A.	E
Clements, cf..	2	1	1	0	0
Culbertson, cf	1	0	1	0	0
Bath, ss.......	2	2	1	3	0
Barney, c......	2	0	4	0	0
Wright, 1b....	2	2	6	0	0
Emery, 3b....	1	0	1	0	1
J. Ridge, 2b...	2	1	0	2	0
Kinney, lf....	2	0	0	0	0
Massen, rf....	2	0	0	0	0
Bailey, p......	2	1	1	2	0
Totals	18	7	15	7	1

Ancon.	AB.	H.	PO.	A.	E
Pearman, 3b..	1	0	1	1	0
Tinsley, ss....	3	0	1	1	0
Hunter, cf....	3	1	0	0	0
Smith, c......	3	2	6	2	0
Keller, 2b.....	3	1	0	1	0
Nygren, 1b...	3	2	4	0	1
Steele, lf......	2	0	0	0	1
Wrightson, p.	2	1	0	1	0
Tannehill, rf..	2	1	0	0	0
Totals.......	22	8	12	6	2

Gorgona............................ 3 0 0 1 x—4
Ancon............................ 1 1 0 0 0—2

Runs—Gorgona: Clements, Culbertson, Wright, Emery; Ancon: Pearman, Wrightson. Runs earned—Gorgona, 2; Ancon, 1. Two base hit—Wright. Sacrifice hit—Bath. Stolen bases—Bath, Clements, Culbertson (2), Smith, Nygren, Wrightson. Bases on balls—Off Bailey, 2. Struck out—By Bailey, 3; by Wrightson, 5. Hit by pitcher—By Wrightson—Emery. Left on bases—Gorgona, 4; Ancon, 7. Umpire—Cooling. Time of game—1.05. Scorer—D. G. Hayes.

ATLANTIC LEAGUE.

No games played on May 8 on account of wet grounds.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*
Com-Sub...	13	10	3	.768
P. R. R....	11	5	6	.454
Civ. Adm..	11	4	7	.363
Colon	11	4	7	.363

SCHEDULE FOR MAY 15.

Commissary-Subsistence vs. Colon.

Strangers' Club Team Won.

The Strangers' Club baseball team of Colon defeated the University Club nine of Panama in a game of baseball at Ancon Park, Ancon, on Sunday morning, May 8, by a score of 4 to 2.

Supplies for Canal Work.

The following steamers, with supplies for the Isthmian Canal Commission, arrived at the ports of Cristobal and Colon, during the week ending May 7, 1910:

Colon, May 1, from New York, with 93 packages medical supplies for Sanitary Department; 5,000 barrels cement for Atlantic Division; 22 tons castings for Gorgona store (for Mechanical Division), 50 tons boiler and parts for Central Division; 75 cases soap, 29 kegs cotters, 131 coils tool hose, 42 bales life preservers, 15 tons bolts and nuts, 10 tons bars and angles, 20 tons steel plates and 57 coils wire rope for stock; and a miscellaneous cargo consisting of 6,927 packages, weighing 1,207 tons.

Prinz Joachim, May 2, from New York, with 50 cases fuses for Central Division.

Atenas, May 5, from New Orleans with 40,527 feet Y. P. lumber and 17 tons derrick engines for Pacific Division; 36 tons castings for Central Division; 95,513 feet Y. P. lumber, 24 reels wire rope, 8,640 feet W. O. lumber and 1,302 pieces cross ties for stock.

Zacapa, May 7, from New York, with 45 tons steel for stock; 6½ tons valves for Central Division.

Advance, May 7, from New York, with 150 pieces pipe and 30 crates elbows for Atlantic Division; 48 barrels alcohol for Sanitary Department; 29 bundles steel, 103 bundles iron pipe, 140 cases air brake equipment, 200 cases linseed oil, 46 tons angles (steel), 126 bundles wheelbarrows, 450 bundles brooms, 125 cases lanterns, 254 tons steel plates and 49 tons wrought iron pipe for stock; and a miscellaneous cargo consisting of 4,838 packages, weighing 716 tons.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., May 11, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Baughman, J. E.
Bryan, Clarence L.
Busch, Ed. W.
Cote, James
Chambers, Robert
Cook, George H.
Cotter, J. H.
Dickinson, Mrs. Thomas
Dunn, John
Ecker, J. J., jr.
Fryer, Mrs. Charlie
Gerow, Mrs. W.
Grier, Charles L.
Hackenberg, Miss Ruth
Kelly, Tom
Nethersole, Fred
Nicholson, E. P.
Ourand, Mr. & Mrs. Chas.
Petrikin, Mrs. Zelma
Rasmussen, Alfred C.
Shuur, Dave
Tonje, Samuel H.
Wentsler, Mrs. K. E.
Williams, Billie

Proposals for Excavation at Gorgona.

OFFICE OF CHIEF QUARTERMASTER,
CULEBRA, C. Z., May 10, 1910

Sealed proposals for excavation of 3,287 cubic yards of material in the vicinity of the Gorgona shops will be received at this office until 2 p. m., May 21, 1910, and then opened. Information may be obtained from this office or from the office of the Quartermaster's Storekeeper, Gorgona. Envelopes containing proposals must be endorsed: "Proposals for excavation at Gorgona," and addressed,

C. A. DEVOL,
Chief Quartermaster.

Contract Building.

Sealed proposals for labor only, will be received at the office of the Constructing Quartermaster, Culebra, C. Z., until 3 p. m., May 16, 1910, and then opened, for the erecting of an addition to, and for the alteration of, by contract, the operating room at Ancon Hospital. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $200 when the contract is signed.

C. A. DEVOL, *Chief Quartermaster.*

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Panama........	P. R. R.	Friday........	May 6
Allianca.......	P. R. R.	Thursday.....	May 12
Colon..................	P. R. R.	Wednesday ...	May 18
Advance........	P. R. R.	Tuesday	May 24
Panama................	P. R. R.	Tuesday	May 31
Allianca................	P. R. R.	Monday.......	June 6
Colon..................	P. R. R.	Monday.......	June 13
Advance................	P. R. R.	Saturday......	June 18
Panama................	P. R. R.	Friday.......	June 24
Allianca................	P. R. R.	Thursday.....	June 30
Colon..................	P. R. R.	Thursday.....	July 7
Advance................	P. R. R.	Tuesday	July 12
Panama......	P. R. R.	Monday.......	July 18
Allianca................	P. R. R.	Saturday......	July 23
Colon..................	P. R. R.	Friday........	July 29

CRISTOBAL TO NEW YORK.

Advance................	P. R. R.	Thursday.....	May 12
Panama................	P. R. R.	Wednesday ...	May 18
Allianca................	P. R. R.	Wednesday ...	May 25
Colon..................	P. R. R.	Tuesday	May 31
Advance................	P. R. R.	Monday.......	June 6
Panama..........	P. R. R.	Sunday........	June 12
Allianca................	P. R. R.	Saturday......	June 18
Colon..................	P. R. R.	Saturday......	June 25
Advance................	P. R. R.	Thursday.....	June 30
Panama................	P. R. R.	Wednesday ...	July 6
Allianca................	P. R. R.	Tuesday	July 12
Colon........ ..	P. R. R.	Tuesday	July 19
Advance................	P. R. R.	Saturday......	July 23
Panama................	P. R. R.	Saturday......	July 30
Allianca................	P. R. R.	Thursday.....	Aug. 4
Colon..................	P. R. R.	Wednesday ...	Aug. 10

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

NEW YORK TO COLON.

Almirante............	U. F. C.	Thursday......	May 5
Prinz Aug. Wilhelm...	H.-A ...	Saturday.......	May 7
Santa Marta...........	U. F. C.	Thursday......	May 12
Metapan...............	U. F. C.	Thursday......	May 19
Prinz Joachim.........	H.-A ...	Saturday.......	May 21
Zacapa	U. F. C.	Thursday......	May 26
Prinz Aug. Wilhelm...	H.-A ...	Saturday.......	June 4
Metapan...............	U. F. C.	Friday.........	June 3
Prinz Joachim.........	H.-A ...	Tuesday.	June 7
Prinz Aug. Wilhelm...	H.-A ...	Tuesday.......	June 21

COLON TO NEW YORK.

Prinz Joachim.........	H.-A ...	Tuesday.......	May 10
Zacapa.....	U. F. C.	Friday.........	May 13
Almirante............	U. F. C.	Friday.........	May 20
Prinz Aug. Wilhelm...	H.-A ...	Tuesday.......	May 24
Santa Marta...........	U. F. C.	Friday.........	May 27

NEW ORLEANS TO COLON.

Turrialba..............	U.F.C..	Saturday......	May 7
Abangarez.............	U.F.C..	Saturday......	May 14
Atenas.................	U.F.C..	Saturday......	May 21

COLON TO NEW ORLEANS.

Atenas.................	U.F.C..	Thursday......	May 12
Turrialba..............	U.F.C..	Thursday......	May 19
Abangarez.............	U.F.C..	Thursday......	May 26

The next sailings of the Leyland Line will be as follows: *Antillian* May 21, *Bolivian* June 11, and *Californian* June 20, for New Orleans, via Kingston, Ja.

Hamburg-American steamers leave for New York at 10 a. m., and for Port Limon every Wednesday at 2 p. m.

Royal Mail steamers leave for New York early in the morning and passengers should be on board the night before.

United Fruit Company ships for New Orleans leave at 3 p. m., and for New York at 10 a. m.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

Cold Storage Prices.

There are no changes in the prices of cold storage articles sold by the commissaries as quoted in last week's issue of THE CANAL RECORD.

The following vessels arrived at or departed from Balboa during the week ended May 7:

Arrivals—May 2, *Ecuador*, from Guayaquil; *Aysen*, from south ports; May 4, *Oberon*, from Port Harford (oil boat); *City of Sydney* from San Francisco; May 6, *Quito*, from intermediate ports.

Departures—May 3, *San Juan*, to San Francisco; *Loa*, to south ports; May 5, *Chiriqui*, to Buenaventura and Tumaco; May 6, *Oberon*, to Port Harford.

CANAL RECORD

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The Canal Record

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Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Concrete in the Locks.

Only half of the permanent mixing and handling plant at Pedro Miguel locks is in operation, and that half has not reached its capacity, yet it mixed and placed nearly a thousand yards of concrete a day during the past week. The amount actually mixed by the forebay crane and placed by the two chamber cranes that are in operation was 5,644 cubic yards, the amounts by days of eight hours each being:

	Cubic Yards.
May 9	1,050
May 10	1,044
May 11	976
May 12	802
May 13	874
May 14	898
Total	5,644

The crane in the forebay of the locks that is handling materials from the rock and sand piles, and mixing the concrete is not working at even its present capacity, because the two chamber cranes that are lifting the buckets from the cars and placing concrete in the forms have not yet reached the point in their operation where they can handle all the concrete that the forebay crane can supply.

The second forebay or mixing crane will be ready for operation this week. It will serve the two placing cranes in the east chamber, one of which is ready for operation, while the other will be ready by the end of this month. At present, however, the second forebay crane can be used only as auxiliary to the one in operation, because the railroad track over which concrete will be hauled from the forebay to the east chamber is not built.

Work on as much of the lower guide wall as can be built at this time will be finished within a week, and there will then remain about 350 feet of the guide wall on the south end to be constructed. The greater part of the concrete being placed is put in the west side wall at present, a part of which will reach the full height this week. Two sections of the center wall culvert forms are in place and the filling with concrete was begun this week. Meanwhile work in the laying of the floor, trenching for the floor culverts, and cleaning up such excavation as remains, advances in both chambers.

A statement of the concrete laid last week by the permanent and auxiliary plants, and of the total, follows:

	CUBIC YARDS.		
	Large stone.	Concrete.	Total.
May 9	31	1,326	1,357
May 10	19	1,337	1,356
May 11	37	1,262	1,299
May 12	....	949	949
May 13	13	1,193½	1,206½
May 14	25	1,290	1,315
Total	125	7,357½	7,482½
Previously reported	....	....	116,357½
Graud total	....	....	123,840

The record of concrete laid in the locks at Gatun follows:

	CUBIC YARDS.		
	Large stone.	Concrete.	Total.
May 9	72	3,162	3,234
May 10	132	2,853	2,985
May 11	58	2,646	2,704
May 12	102	2,652	2,754
May 13	....	3,014	3,014
May 14	99½	2,735	2,834½
Total	463½	17,062	17,525½
Previously reported	....	....	366,090
Grand total	....	....	383,615½

On two days over 3,000 cubic yards were added to the amount already laid and the average per day was 2,921 cubic yards. The construction plant worked an average of 5⅔ mixers an average of 10 1-5 hours a day. The auxiliary plant with two mixers worked an average of 8 hours a day.

During the week there were laid in the spillway of Gatun Dam 1,263 cubic yards of concrete.

Culebra Slide.

The progress of the slide on the west bank of Culebra Cut, at Culebra, where a mile of the bank including about 2,000,000 cubic yards of material, is gradually moving into the excavation, has been noted from time to time in THE CANAL RECORD. Several buildings have already been moved from the part of the bank that is crumbling, and others, including the hotel for gold employes, the post-office, several one-family houses, and the Commission clubhouse, are included within the limits of a series of cracks in the ground that are supposed to indicate the extent of the slide, although a very slight movement has been observed. A board of Central Division engineers was appointed on April 21, to investigate and render an opinion as to the damage that might be done to these buildings in the near future by reason of the slide. This board has reported as follows:

"It is quite probable that the two rows of cottages known as steam shovel row, will have to be moved or torn down at some future time, but if the slide continues to move as slowly in the future as it has in the past, a part or all of these cottages may be in a habitable condition as long as they are needed.

"An inspection of the west face of the Canal cut below these buildings shows that the quality of the material in this probable slide is much harder and firmer than the material now being excavated from the slide farther to the north. The recent cut made by steam shovel 223 between stations 1780 and 1790, although classified as soft rock, is of a massive nature, some of it being conglomerate, containing small irregular concretions, almost as hard as quartz. This material requires heavy charges of dynamite for blasting and then breaks into large irregular blocks. The usual seam of lignite, which is the cause of almost all of our slides, does not appear yet in this vicinity.

"For these reasons and also because of the distance of the buildings back from the edge of the Cut, there is absolutely no danger whatever of any loss of life due to the continued use of these buildings as living quarters. If the ground continues to slide the movement must necessarily be so slow that there will be ample time to prevent any serious property loss as well.

"The board recommends, however, that a weekly inspection be made by a competent carpenter foreman and the foundations blocked up. In regard to the gold hotel, the clubhouse, and other buildings to the north: There are no signs of any breaks near enough to endanger them at present and it is not believed by the board that there will be any danger in the future, although this is a matter of conjecture depending entirely on how the slide will act as the Cut grows deeper."

Coal for Current Year.

Four contracts have been entered into by the Panama Railroad Company with firms in the United States for 150,000 tons, 75,000 tons, 120,000 tons, and 200,000 tons of semi-bituminous coal, in all 545,000 tons. The contract is for the year ending March 31, 1911. Bids were asked for early in March, but when the proposals were opened on March 25, it was found that the prices ranged too high and new proposals were requested.

On account of the excessive moisture in the atmosphere on the Isthmus and the consequent danger from spontaneous combustion, no bids for bituminous coal were considered, only semi-bituminous coal being suitable. Coal which analyzes 14,600 British thermal units on the "as received" basis is the standard required, but coal analyzing as low as 13,350 B. T. U. will be accepted and its value determined by deducting from the contract price one-half cent per 50 B. T. U. or fraction thereof below the standard of

NOTES OF PROGRESS.

(Continued.)

14,600. If coal "as received" analyzes less than 14,350 B. T. U., but on the "dry" basis analyzes 14,750 or above, no deduction other than one-half cent per 50 B. T. U. will be made. But if the coal as delivered analyzes less than 14,350, and on the "dry" basis less than 14,750, a deduction of two cents for each 50 units or fraction thereof below 15,000 B. T. U., on the "dry" basis, will be made from the contract price in addition to the deduction of one-half cent per 50 B. T. U. applied on the "as received" basis.

The requirements as to heat units are the same as last year, excepting that no excessive deduction is made when coal on the "as received" basis analyzes less than the minimum standard, if on the "dry" basis it proves that its low value on the "as received" is due entirely to the excess moisture it absorbs from the time it leaves the mines until it is placed on board the colliers at the loading port. A comparison of the coal "as received" with the "dry" basis proves the actual value, and in cases where on the "dry" basis coal analyzes less than 14,750 B. T. U. the penalty has purposely been made high, so as to prevent contractors from furnishing coal which will not meet the requirements on the Isthmus. The tests are made by the Geological Survey from samples taken at the time the coal is loaded on the ships, and in addition to this a test will be made for some time of the condition of the coal as delivered on the Isthmus.

The coal will be delivered on the Isthmus in ships carrying from 5,000 to 7,000 tons instead of from 4,500 to 6,000 as last year, the change having been made to facilitate discharging operations by increasing the size of the steamers and decreasing their number. The proposed change of the unloading crane at Cristobal from the Mount Hope dry dock slip to the French canal has not been made, but it is believed that the congestion resulting from having two ships at the slip every week will be relieved by having only one large vessel to unload. The coal delivered at Cristobal is sold to the Isthmian Canal Commission, which purchases about 250,000 tons a year, to United States vessels of all kinds, touching both at Atlantic and Pacific ports, and to various private consumers.

Pure Water in Colon and Cristobal.

The use of domestic filters in Colon and Cristobal is more likely to be a detriment than a benefit to the water supplied to those places, and the health officer of Colon and the physiologist in charge of the laboratory and filtration plant at Mount Hope have advised the people to take water direct from the taps. The water is clear, colorless, and odorless, as it comes from the pipes, and is free from any bacteria, except such common water bacteria as die at the temperature of the body. It is as pure as the best city supplies in the States, and better than most waters deemed fit for human use. After it has passed through the ordinary house filter, of whatever type, however, it cannot be guaranteed, because the filters are likely to be dirty and they almost surely harbor innumerable bacteria. The distribution of sterilized water in Cristobal and Colon was discontinued over a year ago, and recently the health officer has advised the owners of private sterilizers to discontinue using them.

The precautions taken to keep the water pure begin before it touches the earth, because a patrol keeps people and cattle off the watershed of Brazos Brook above the reservoir, and by constant vigilance sees to it that the water is not contaminated. From the reservoir, which is formed by a dam across the brook, it flows through a 20-inch main to the filtration station at Mount Hope. There it enters a sedimentation basin so divided into compartments that heavy matter carried down from the reservoir settles before the water reaches the last compartment or effluent. Alum is added in the settling basin to assist in the precipitation. From the basin, the water is pumped through sand filters into a tank on a nearby hill, whence it flows to Colon and Cristobal. The filters are washed at least once a day, and often two or three times when the water is unusually turbid, by forcing clean water up through the sand bed. In addition to this method a sterilization by hot steam and chloride of lime will be put into effect this month. The precautions taken to keep the big filters clean are an indication of the danger that a house filter may be when it becomes dirty.

Notice to Shovel and Dredgemen.

Panama local, No. 5, of the Associated Union of Steam Shovel and Dredgemen will hold its monthly meeting on Sunday, May 22, at 2.30 p. m. in I. C. C. lodge hall at Culebra. Important business will be transacted and all members are requested to attend.

W. P. WHEELER,
Secretary and Treasurer.

May 13, 1910.

Rainfall, May 1 to 14, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.33	6	4.08
Balboa	1.43	6	3.29
Miraflores	.75	6	2.63
Pedro Miguel	2.14	12	4.90
Rio Grande	2.46	7	4.66
Central Section—			
Culebra	3.01	7	4.75
Camacho	2.56	7	5.45
Empire	3.35	7	6.15
Gamboa	3.40	7	5.08
Alhajuela	1.48	7	2.61
El Vigia	1.25	7	2.46
Gorgona	1.10	7	2.64
San Pablo	.86	7	3.48
Tabernilla	1.05	7	3.57
Bohio	1.84	7	5.78
Atlantic Section—			
Gatun	1.92	7	4.35
Brazos Brook	1.33	7	3.68
Cristobal	1.56	7	4.66

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending May 25, 1910, (75th meridian time):

DATE.	High.	Low.	High.	Low.
	A. M.	A. M.	P. M.	P. M.
May 19	12.30	6.32	12.53	7.10
May 20	1.32	7.28	1.45	7.58
May 21	2.20	8.15	2.27	8.40
May 22	2.59	8.55	3.02	9.17
May 23	3.35	9.32	3.35	9.52
May 24	4.04	10.07	4.07	10.27
May 25	4.35	10.40	4.38	11.03

STEAM SHOVEL RECORDS.

Work of Central Division Shovels in April.

During the month of April, the total amount of material excavated in the Central Division was 1,723,339 cubic yards, of which 556,787 cubic yards were classified as earth and 1,166,552 cubic yards as rock. Of this quantity, 1,685,030 cubic yards were removed by steam shovels.

The high record of the month was made by shovel No. 204, working 26 days in the Culebra District, which excavated 55,635 cubic yards of rock. The second best record for the month was made by shovel No. 205, working 25 days in the Culebra District, which excavated 54,597 cubic yards of rock.

The best record for a shovel of the 70-ton class was made by shovel No. 127, working in the Tabernilla District, which excavated 35,164 cubic yards of earth in 26 days.

Shovel No. 217, in the Culebra District, made the high record for one day by excavating 2,945 cubic yards of rock on April 28. Shovel No. 127, working in the Tabernilla District, excavated 1,624 cubic yards of earth on April 2, being the high record for one day for a 70-ton shovel during the month.

Except where noted, monthly records are computed by place measurement, while the daily records are based on car measurement. The best records for the month and for one day in each district are shown below:

Shovel No.	CUBIC YARDS.			No. of days at work.
	Earth.	Rock.	Total.	
TABERNILLA DISTRICT.				
127	35,164	....	35,164	26
125	33,205	851	34,056	25
BAS OBISPO DISTRICT.				
258	43,907	....	43,907	25
209	40,938	....	40,938	24
EMPIRE DISTRICT.				
262	1,995	39,101	41,096	26
265	....	40,604	40,604	26
CULEBRA DISTRICT.				
204	....	55,635	55,635	26
205	....	54,597	54,597	26

BEST RECORDS FOR ONE DAY.

Shovel No.	Location.	Date.	Character of material excavated.	Cubic yds. excavated.
129	Tabernilla	Apr. 2.	Earth	1,624
125	Tabernilla	Apr. 20.	Earth	1,493
209	Bas Obispo	Apr. 22.	Earth	2,500
221	Bas Obispo	Apr. 21.	Rock	2,315
122	Bas Obispo	Apr. 13.	Earth	2,120
225	Empire	Apr. 2.	Rock and earth	2,565
224	Empire	Apr. 28.	Rock	2,425
203	Culebra	Apr. 26.	Rock	3,325
217	Culebra	Apr. 28.	Rock and earth	2,945
231	Pedro Miguel	Apr. 18.	Rock	2,166

Work of Porto Bello Rock Crushers.

A statement of the rock crushed at Porto Bello during the two weeks ending May 14 follows:

DATE.	Hours worked.	Cubic Yards.
May 2	11:20	2,795
May 3	9:50	2,335
May 4	9:55	2,762
May 5	9:00	2,845
May 6	10:45	3,150
May 7	12:15	2,780
Total	63:05	16,667
May 9	11:50	2,878
May 10	12:15	2,655
May 11	13:40	3,040
May 12	14:10	3,175
May 13	12:00	2,990
May 14	12:30	2,920
Total	76:25	17,658

GORGONA AND EMPIRE SHOPS.

Economies Resulting from the Reorganization.

On October 1, 1909, a change was made in the organization in charge of the mechanical work of the Commission, by which all steam-shovel repairs of the Central Division and such repairs on the steam shovels used by other divisions as could not be made in the field, were concentrated at Empire shops, while other mechanical work, excepting that on marine equipment, was consolidated at Gorgona shops. At the end of six months under the new organization a board, consisting of the Superintendent of the Mechanical Division, the Assistant Division Engineer of the Central Division, an accountant from the office of the Examiner of Accounts, and one from the cost keeping section of the Chairman's office, was appointed to determine whether the mechanical work had been done more economically during the six months ending March 31, 1910, than in the preceding six months. An abstract of the board's report follows:

A statement of the mechanical expenditures of the Central Division for each of the two periods is given, together with the statement that the excavation in that division during each period was approximately 9,000,000 cubic yards. The mechanical expense of the Central Division for the six months from April to September, 1909, inclusive, averaged $213,463.95 per month. For the first six months of the reorganization the average per month was $194,543.06, showing an average monthly decrease of $18,920.89. In considering these figures the board states that the equipment involved is becoming older and weaker, and naturally required more repairs during the second six months than in the first six months in order to maintain the same rate of excavation. The unanimous opinion is that the reorganization is a success and that the saving effected is due to the more efficient application of labor. This part of the report refers only to the work done for the Central Division by the shops at Empire. A comparison for Gorgona shops, based on the work done for the Central Division, is also made.

The majority of work performed by Gorgona shops for other divisions consists in manufacturing, on which an overhead charge of 30 per cent is added to material and labor directly applied. The board had at its disposal no data by which manufacturing charges at Gorgona shops could be compared with charges for material brought from the States, but from the fact that the manufacturing at Gorgona has increased 100 per cent during the last six months, the board assumes that each division considers the charges reasonable, as compared with the cost of material brought from the States. A statement is submitted showing the Gorgona shop charges against the Central Division, a summary of which follows:

CLASS OF WORK.	First six months.	Second six months.
Locomotive	$148,080.59	$156,927.77
Car	390,453.31	373,495.98
Other equipment	233,315.08	126,589.43
Steam shovels	15,700.19	158.72
Electrical	1,143.70	3,365.46
Superintendence, machinery, tools, shop expenses	179,785.48	119,427.11
Total	$968,478.35	$779,965.47

These charges were divided as follows:

CLASS.	First six months.	Second six months-	Saving.
Labor	$590,951.63	$454,833.91	$136,117.72
Material	377,526.72	325,131.56	52,395.16
Total	$968,478.35	$779,965.47	$188,512.88

Total reduction second six months, other than steam shovel repairs, $172,971.41.

The overhead charge against the Central Division has been reduced from an average of 38.6 per cent during the six months previous to the reorganization to an average of 28.49 per cent during the six months since the reorganization. This reduction in overhead expense alone has saved the Central Division $60,358.37 during the six months since the reorganization.

In the repairs to equipment the cost of labor has been reduced, while the expenditure for material has been increased, showing the increased efficiency in the application of labor.

LABOR FORCE AND QUARTERS IN APRIL.

The combined Canal and Panama railroad force on April 27 was 36,903, of which 29,211 were employes of the Isthmian Canal Commission. There was no recruiting in April, because the supply of laborers on the Isthmus was sufficient. The independent immigration of European and West Indian laborers continued.

The report of the Chief Quartermaster for April shows that the number of family quarters occupied by "gold" employes was 1,675, which is 1 less than in March, and the occupants numbered 5,111, a decrease of 49. Of this number, 1,766 were women, and 1,638, children. Bachelor quarters occupied by "gold" employes numbered 1,959 and the occupants numbered 3,345, of whom 142 were women. The family quarters occupied by European laborers numbered 296, and the occupants, 867; bachelor quarters 122, and the number of occupants, 5,948. The family quarters occupied by West Indians numbered 1,065, and the occupants, 3,421; bachelor quarters, 240, and the number of occupants, 4,702.

The following statement shows the Canal force actually at work on April 27:

DEPARTMENT.	Monthly.	Artisans.					European Laborers.		West Indian Laborers.					Total Silver.	Total Gold.	Grand Total.
		44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 cents.			
Const'ct'n and Eng'r'ng.	4,141	18	36	308	712	2,347	3,443	1,570	112	760	3,162	3,147	306	20,332	3,358	23,690
Civil Administration	183	..	..	2	4	18	......	......	...	.....	......	4	....	211	335	546
Sanitation	640	..	..	4	4	7	2	2	...	1	2	291	6	959	371	1,330
Quartermaster's	1,085	4	2	61	167	170	207	24	13	.....	4	850	....	2,587	243	2,830
Subsistence	620	..	..	1	1	......	......	......	...	.....	......	......	....	622	64	686
Disbursements	8	..	..	....	.....	......	......	......	...	.....	......	......	....	8	21	29
Examinat'n of Accounts.	7	..	..	....	.....	......	......	......	...	.....	......	......	....	7	93	100
Totals	6,684	22	38	376	888	2,542	3,652	1,596	125	761	3,168	4,562	312	24,726	4,485	29,211

Panama railroad force, 3,642; Panama railroad relocation force, 3,097; Panama railroad commissary force, 953 Total, 7,692.

Relief of Cartago Sufferers.

The Panama railroad tug *Phoenix* sailed from Colon on Thursday night, May 12, with supplies for the earthquake sufferers in Costa Rica. In compliance with instructions received from the Secretary of War 500 blankets and 100 tents were sent, and 150 wall tents were consigned from Camp Elliott, in accordance with instructions received by the Commandant from the Secretary of the Navy. Mr. J. W. Dibrell, the representative of the Canal Zone Chapter of the American National Red Cross, remained in Costa Rica to attend to the delivery of the consignment. Mr. Gustavus L. Monroe, secretary of the American Legation in Costa Rica, has been designated by the national headquarters of the Red Cross at Washington, to represent the organization, and all money and consignments forwarded from the Canal Zone are placed in his hands to insure proper distribution.

The second performance given by the Canal Zone Chapter of the American National Red Cross in aid of the earthquake sufferers will be held at the National Theater, Panama, on Wednesday evening, May 25. A program has been arranged in which Madame A. Faure, Messrs. Dawson, Jacobs, Gohram, Kramer, Kellermann and members of the Cristobal minstrels will take part. Seats at $2 and $2.50 are on sale at all offices of the District Quartermasters, and at the Commission clubhouses, and may also be purchased from the local Red Cross chairman in each district.

The Panama railroad tug *Pheonix* has returned and reported the delivery of the supplies forwarded on Thursday night.

Fresh Fruits and Vegetables.

The first fresh fruits to be brought to the Isthmus by the commissary this season, 2,000 pounds of cherries and 1,000 pounds of plums, will arrive from New Orleans on the *Abangarez*, due at Colon on May 19. The *Colon*, which will arrive at Cristobal on May 24, will bring 50 boxes of California oranges, 300 to the box, 20 boxes of lemons, and 1,000 pounds of rhubarb. The *Atenas*, due from New Orleans on May 26, will bring 1,000 quarts of blackberries, one ton of cherries, and two tons of new tomatoes.

The first parsley and watercress to be brought to the Isthmus by the commissary will arrive on the *Abangarez* on May 19, which will also bring five bushels of cucumbers, and eight tons of new potatoes. The *Atenas* will bring four tons of new cabbage, and one ton of new green peas on its next voyage. The shipments of fresh fruits and vegetables will increase in size and variety from this time forth.

Cristobal court, No. 8, I. O. P. K., will hold the second of a series of monthly informal dances in the Commission clubhouse on May 28. All members in good standing and their families are invited.

DEFENSES OF THE CANAL.

Appropriation of $14,104,203 Required for Coast Protection.

A message from the President of the United States, transmitting a letter from the Secretary of War, inclosing the report of a board of officers of the Army and the Navy appointed by him to consider the subject of the defenses of the Panama Canal, was sent to the Congress on April 29, and on April 30, was referred by the House to its Committee on Appropriations. The message follows:

To the Senate and House of Representatives:

I forward herewith a letter from the Secretary of War inclosing the report of a board of officers of the Army and Navy, appointed by him to consider the subject of defenses of the Panama Canal. It is the right and the duty of the United States to defend the work upon which it is expending such enormous sums. An adequate defense requires suitable fortifications near the appoaches to the termini.

It was not practicable to submit plans and estimates for the fortifications of the Canal at the time when the estimates for annual Canal construction were sent to the Secretary of the Treasury, because it was necessary for the board of officers to visit the Isthmus before deciding the place and extent and cost of the fortifications needed. The formal estimates for appropriations for the fortifications have now been submitted through the Secretary of the Treasury, in the manner required by law.

In the act providing "for the construction of a canal connecting the waters of the Atlantic and Pacific oceans," approved June 28, 1902 (the Spooner Act), it is stated that "The President * * * shall also cause to be constructed such safe and commodious harbors at the termini of said Canal, and make such provisions for the defense as may be necessary for the safety and protection of said Canal and harbors." This act indicates that it is the intention of Congress to provide for the defenses of the Canal by appropriations made in the same acts which appropriate moneys for its construction.

The letter of the Secretary of War gives the reasons for submitting the present preliminary report of the board of officers, and for recommending that the Congress take action upon the subject of the report at its present session. I concur in these reasons, and I am of the opinion that such works as may be erected for the defense of the Canal should be completed, occupied, and ready for operation at the time that the Canal itself shall be completed and opened to the passage of vessels. I am encouraged to believe that this date will certainly not be later than the one which has hereto been fixed, namely, January 1, 1915.

Wm. H. Taft.

The White House, April 29, 1910.

War Department,
Washington, April 26, 1910.

Sir: I have the honor to forward herewith the preliminary report of a joint board of officers of the Army and the Navy, the navy officers having been designated at my request by the Secretary of the Navy, which was appointed by me in November last for the purpose of making a report upon the subject of the necessary defenses of the Panama Canal.

This report covers the subject of the seacoast fortifications at the Atlantic and Pacific termini of the Canal, including the necessary accessories for operating and controlling the fire of the armament of the fortifications and the construction of the posts necessary for the artillery garrisons, and contains an estimate of the cost of all of these items. The board was directed also to report upon the means of defending the portions of the Canal other than the termini from attacks to which those portions might be subjected by forces operating upon land, with the object either of getting possession of the Canal or of injuring the locks, dams or other structures forming necessary parts of it. The board has visited the Isthmus of Panama, and has made an examination of the ground about the termini of the Canal and of the territory in the neighborhood of the Canal's course, but the submission of a full report awaits the result of inquiries as to the status and availability of certain parcels of land situated along the route of the Canal, which it has under consideration with reference to the maintenance of troops other than those needed for the garrisons of the seacoast fortifications.

A preliminary report is submitted for the reason that it is considered that, unless authorization is given for proceeding with the work of fortification before the time when action can be had upon the subject at the next session of the Congress, there is every probability that the Canal will be completed before the armament can be constructed and emplaced unless such work shall be carried on in an unnecessarily expensive manner. It is not difficult to understand that the engineering work necessary for the construction of gun and mortar batteries and the preparation of the sites for them can be much more economically and otherwise advantageously done in connection with the somewhat similar work which is going on in the construction of the Canal itself, and with the convenient utilization of the personnel and appliances used in connection with this construction, than would be possible if the work of fortification were to be postponed until such time as will be too late for carrying it on concurrently and harmoniously with the Canal construction, and when the staff and other employes and the appliances in use might be partially dissipated and to a certain extent disorganized. The heavy guns and carriages also require considerable time for their economical production, which should be so arranged that all the articles of each class should be manufactured in one establishment, in order to avoid duplication of patterns and templets, and the necessity for having different organizations acquire the swing of the work, and for finishing it within a short time of having acquired efficiency.

The National Coast Defense Board appointed by the order of the President, dated January 31, 1905, of which the Hon. William Howard Taft, Secretary of War, was president, for the purpose of revising the report, submitted in 1886, of the board appointed pursuant to the provisions of the Act of Congress approved March 3, 1885, known as the "Endicott Board," submitted an estimate of the cost of fortifying the entrances to the Panama Canal, amounting to $4,827,682. The principal reasons for the difference in the estimates are that the former estimate provided for 12-inch guns instead of 14-inch guns in the primary batteries; it provided for 3-inch guns instead of 6-inch guns for the secondary batteries; it made no provision for the purchase and reclamation of sites; it made no provision for the construction of posts for the artillery garrison. In addition, all prices are now considerably higher than they were at the date when the report of that board was submitted.

I recommend that steps be taken to bring the subject to the attention of the Congress, with a view to affording opportunity for action at the present session.

Respectfully, J. M. Dickinson,
Secretary of War.

The President.

Joint Board,
Washington, April 25, 1910.

Sir: Referring to the preliminary report of the board of officers to report upon the necessary defenses of the Panama Canal, which has been referred to the joint board by the Secretary of War:

2. The joint board has the honor to report that, at a special meeting of this date, it has considered the report and has unanimously passed the following resolution:

Resolved, That the joint board recommend approval of the seacoast armament proposed in the preliminary report of the board of officers to report upon the subject of the necessary defenses of the Panama Canal, and of the submission to Congress, at the present session. of the estimates as contained in the last sentence of the last paragraph of that report.

Very respectfully,
George Dewey,
Admiral of the Navy, Senior Member.

The Secretary of War.

Panama Fortification Board,
Washington, D. C., April 23, 1910.

The Adjutant-General, Washington, D. C.:

Sir: The board of officers appointed by paragraph 29, Special Orders, No. 265, War Department, as amended by paragraph 15, Special Orders, No. 300, War Department, 1909; paragraph 26, Special Orders, No. 20, War Department, 1910, and paragraph 7, Special Orders, No. 32, War Department, 1910, for the purpose of making a report upon the subject of the necessary defenses for the Panama Canal, has the honor to submit the following preliminary report:

The instructions covering the subjects upon which the board is to report are set forth in letter to the board from the Adjutant-General of the Army, dated November 13, 1909 (A. G. O. 1455096).

The board is not yet prepared to report on all the subjects covered in its instructions, but for reasons stated hereinafter deems it advisable to submit at this time a preliminary report on such of its duties as pertain to seacoast defenses for the termini of the Canal.

The board recommends that the following seacoast armament be emplaced for the defense of the Canal: Ten 14-inch rifles; twelve 6-inch rifles; twenty-eight 12-inch mortars.

The following table gives the estimates of cost for the emplacement of this armament, for the necessary accessories for use therewith, for a submarine-mine defense, and for barracks and quarters for the coast-artillery garrisons:

Purchase and reclamation of sites	$1,125,000
Emplacements	6,027,000
Guns and carriages	2,324,000
Ammunition	1,382,288
Power plants	138,000
Searchlights	244,800
Fire control	370,755
Submarine-mine defense	658,360
Barracks and quarters, Coast Artillery	1,834,000
Total	14,104,203

It is conservatively estimated that the Canal will be completed and in use by January 1, 1915, and it is quite possible that it may be completed before that date. As it will require several years to construct and emplace the proposed armament, if it is to be done in an orderly and economical manner, it will be necessary to commence the construction of these defenses during the current calendar year, in order to insure their completion by the date of the completion of the Canal. The board therefore recommends that an estimate be submitted to Congress, at the present session, for $14,104,203, with recommendation that the expenditure of this sum be authorized and that the sum of $4,000,000 thereof be appropriated and made immediately available for expenditure toward the execution of the project, with a view to the completion of the entire project within three and one-half years.

William Crozier,
Brigadier-General, Chief of Ordnance, Senior Member Present.
Arthur Murray,
Brigadier-General, Chief of Coast Artillery.
W. W. Wotherspoon,
Brigadier-General, U. S. Army.
W. L. Marshall,
Brigadier-General, Chief of Engineers.
H. S. Knapp,
Captain, U. S. Navy.
W. J. Maxwell,
Commander, U. S. Navy.
W. G. Haan,
Major, Coast Artillery Corps.
Stanley D. Embick,
Captain, Coast Artillery Corps, Recorder.

[First indorsement.]

(1455096.) War Department,
Washington, April 25, 1910.

Respectfully referred to the president, joint board, Mills Building, Washington, D. C.

Robert Shaw Oliver,
Assistant Secretary of War.

Joint Board,
Washington, April 25, 1910.

Respectfully returned to the Secretary of War.

2. The action of the joint board is made the subject of a special letter of this date.

George Dewey,
Admiral of the Navy, Senior Member.

Missing Men.

Information is desired with regard to the whereabouts of a man named Askey, formerly in the mail service in Allegheny, Pa. Address Randall I. Bradbury, Empire.

Proposals for Excavation at Gorgona.

Office of Chief Quartermaster,
Culebra, C. Z., May 10, 1910

Sealed proposals for excavation of 3,287 cubic yards of material in the vicinity of the Gorgona shops will be received at this office until 2 p. m., May 21, 1910, and then opened. Information may be obtained from this office or from the office of the Quartermaster's Storekeeper, Gorgona. Envelopes containing proposals must be endorsed: "Proposals for excavation at Gorgona," and addressed,

C. A. Devol,
Chief Quartermaster.

OFFICIAL CIRCULARS.

Lubrication of Marine Equipment.

Culebra, C. Z., May 1, 1910.

Circular No. 314-a.

Effective this date, the following rules will govern the lubrication of marine equipment designated below under both the Isthmian Canal Commission and the Panama Railroad Company. No lubricants will be issued or used on such equipment except as listed hereinafter. The allowances given are monthly allowances, unless otherwise stated, and are based on the maximum requirements of the largest vessels in the classes shown when operated continuously. A corresponding reduction in the consumption of lubricants will be expected on the smaller vessels of a class and when vessels are not at work the entire month.

	Per month.	
Sea-Going Suction Dredges—	*Gals.*	*Lbs.*
Marine engine oil	375	...
Locomotive engine oil	50	...
Stationary engine oil	100	...
Valve oil	20	...
Kerosene oil	100	...
Lard oil (see note 2 below)	5	...
Ammonia oil (see note 1 below)	...	...
Yellow lubricating grease	...	100
Gear grease	...	200
Graphite	...	5
Waste, cotton	...	350
Ladder and Dipper Dredges—		
Marine engine oil	60	...
Locomotive engine oil	20	...
Stationary engine oil	25	...
Valve oil for ladder dredges	5	...
Valve oil for dipper dredges	20	...
Kerosene oil	75	...
Lard oil (see note 2 below)	5	...
Yellow lubricating grease	...	50
Gear grease	...	125
Waste, cotton	...	100
Graphite—5 pounds every 3 months.		
Suction Pipe Line Dredges—		
Locomotive engine oil	50	...
Stationary engine oil	50	...
Valve oil	20	...
Kerosene oil	75	...
Lard oil (see note 2 below)	2.5	...
Yellow lubricating grease	...	50
Gear grease	...	50
Graphite	...	5
Waste, cotton	...	100
Tugs—		
Marine engine oil	100	...
Stationary engine oil	15	...
Valve oil	15	...
Kerosene oil	25	...
Lard oil (see note 2 below)	2.5	...
Yellow lubricating grease	...	25
Waste, cotton	...	100
Graphite—5 pounds every 3 months.		
Clapets—		
Marine engine oil	30	...
Locomotive engine oil	5	...
Stationary engine oil	5	...
Valve oil	5	...
Kerosene oil—		
When equipped with dynamo	15	...
When not equipped with dynamo	60	...
Lard oil (see note 2 below)	2.5	...
Fish oil (see note 1 below)	...	...
Yellow lubricating grease	...	25
Waste, cotton	...	75
Graphite—5-pound tin every 5 months.		
Steam Launches—		
Marine engine oil	20	...
Valve oil	5	...
Kerosene oil	15	...
Waste, cotton	...	20

Note 1—The quantity of ammonia cylinder oil used on refrigerating machinery on vessels is so small that no specific allowance of the same has been made. It may be obtained upon requisition in the usual manner from the Quartermaster's Department as required. This also applies to fish oil.

Note 2—Lard oil shall be used for hand lamps only.

Motor boats, rock breakers and drill boats being considered special equipment and working under widely different conditions, no specific allowance for them has been made. No other than the foregoing standard lubricants, however, shall be used on them.

The Quartermaster's Department will arrange to carry a suitable supply of the different lubricants listed above at the proper storehouses. The different divisions interested will arrange for the issue of same to engineers on their requisitions. In case engineers make requisition for a greater amount than shown on this schedule covering the periods given, an explanation will be required.

A record of the oil issued to the various pieces of equipment shall be kept by each division and a statement of same compiled monthly, copies of which shall be sent to the superintendents concerned and to me.

One or more copies of this circular shall be kept posted prominently in each storehouse issuing marine oils and aboard each vessel.

Geo. W. Goethals,
Chairman, Isthmian Canal Commission.
President, Panama Railroad Company.

Plant Turned Into Store.

Culerra, C. Z., May 9, 1910.

Circular No. 323.

Equipment, tools and similar items carried in plant accounts of the different divisions and departments, when no longer required anywhere on the work, will be turned back to the custody of the Quartermaster's Department and held for safekeeping. No credit will be allowed for plant thus turned back into store until it is reissued to another department or division, or sold.

The Quartermaster's Department will properly mark and keep a record of all plant thus turned back into store and advise the department or division charged with same when any disposition is made of it, so that bill can be issued by such department or division and the different plant accounts can receive proper credits and debits.

In case of transfer, the value will be furnished the Quartermaster's Department by the division or department from which the plant is transferred. Divisions will credit their plant account by the amount of such transfer or sale, and the supporting papers will be forwarded to the Examiner of Accounts with the monthly expenditure, Form No. 132 C. E., on which the credit appears.

The above procedure does not refer to secondhand material covered by Chief Quartermaster's Circular of February 4, 1910, or to direct transfers of rolling stock and excavating machinery between divisions covered by Examiner of Accounts' Circular No. 21 of November 20, 1909.

Geo. W. Goethals,
Chairman and Chief Engineer.

Wages of Seamen.

Culebra, C. Z., May 9, 1910.

Circular No. 229-i.

Seamen may be carried on the rolls at $35 a month, as well as at the rates previously authorized.

Geo. W. Goethals,
Chairman and Chief Engineer.

Signing of Coupon Passes.

Culebra, C. Z., May 11, 1910.

Heads of Departments and Divisions:

In order to facilitate the collection of transportation on Sundays and holidays, when a large majority of employes avail themselves of their monthly allowance passes, it has been decided to waive the rule requiring the employe to sign each coupon in the presence of the collector.

In the future, twenty-four trip ticket coupons must be completely filled out, signed, and ready for presentation to the collector when he makes his rounds, and employes should see that this is attended to before entering train.

In any case where the collector has reason to believe that a ticket is being misused, the holder thereof will be required to identify himself by signing his name, which will be compared with the signature appearing on the ticket.

H. F. Hodges,
Acting Chairman and Chief Engineer.

First Mate on Tugs.

Culebra, C. Z., May 16, 1910.

Circular No. 299-e:

An intermediate rate of $140 a month, with subsistence, is authorized for the position of first mate on tugs.

H. F. Hodges,
Acting Chairman.

In Charge of Department of Civil Administration.

Circular No. 322:

Culebra, C. Z., May 13, 1910.

Effective this date, Mr. Maurice H. Thatcher is placed in charge of the Department of Civil Administration of the Canal Zone.

H. F. Hodges, *Acting Chairman.*

Annual Passes to be Inspected.

Culebra, C. Z., May 12, 1910.

Heads of Departments and Divisions:

The following is quoted for the information of holders of annual passes:

"Instructions have been issued that collectors and conductors must request holders of annual passes to submit such passes for their inspection."

J. A. Smith, *General Superintendent.*

Approved:
H. F. Hodges, *Acting Chairman.*

SOCIAL LIFE OF THE ZONE.

Women's Clubs.

The officers of the Canal Zone Federation of Women's Clubs met in Cristobal at the home of the president on Friday afternoon, May 13, for the purpose of selecting the chairmen of the committees and outlining the work for the ensuing year. The work of the organization will be carried on by eight committees as follows: Art and literature, education, household economics, philanthropy and civics, health, library extension, reciprocity, and conservation, with which will be merged the work of the former botanical committee.

Church Work.

Children's Day will be celebrated in the Canal Zone Sunday schools on Sunday, June 5. Programs are being prepared for this annual observance, in which the pupils of the schools will take part.

At the recent sale held by the Gatun Sunday school for the scholarship fund, the sum of $65 was realized. An additional offering was made by the school by which this amount was increased to the sum requisite for the payment of two scholarships in the Methodist College, Panama.

The "week of missions" is being observed at Christ Episcopal Church, Colon, the services having begun on May 15. Services are held in the church daily at 7.30 a. m.; at 4 p. m., for women and children, and at 7.30 p. m. Stereopticon views representing work in the mission fields of the world are exhibited. The offerings at these services are forwarded to the Church Missions Board in New York. Last year the week's offering was returned to the parish for the extension of church work on the Isthmus.

Memorial Services for King Edward.

At Christ Church, Colon, the congregation of which is composed largely of West Indians and other British subjects, a memorial service for King Edward was held on Sunday afternoon, May 8. The British Consul and other officials were present.

An official memorial service will be held at the church on Friday morning, May 27, at 11.30 o'clock. The service will consist of the office for the burial of the dead, suitable music and an address. The British minister in Panama, the consuls at Panama and Colon, and officials of the Canal Zone, the Panama railroad, and the Republic of Panama will be present.

Memorial Resolutions.

The Gatun Masonic Club in regular session on May 9, passed resolutions of sympathy on the death of Mrs. G. W. Healy, which occurred on May 7.

Gorgona Lodge, No. 685, International Association of Machinists adopted resolutions of sympathy at a recent meeting on the death of Lynn E. Fake, one of its members.

Salvation Army.

The Salvation Army has extended its work in Cristobal by opening a new two-story building containing a meeting hall, with seating capacity of 350 on the ground floor, and six rooms used for officers' quarters above. The building is situated on land leased from the Panama Railroad Company at a nominal figure, the lumber for its construction having been purchased from the Isthmian Canal Commission at cost price. Captain Charles Biles of Jamaica, has been placed in charge of this work, assisted by Captain A. Scott. Meetings are held in the hall every evening, and on Sundays, three meetings, including a service for children, are conducted. Junior work has been started, a fife and drum corps organized, and a temperance and anti-tobacco society has been formed with 66 members. Several entertainments with lantern slides have been held in the hall. In the institutional work at the Army's Home in Colon 853 meals and 375 lodgings have been supplied free to applicants during the past four months. The Army is looking toward the extension of its institutional work in the establishment of an industrial farm where the unemployed may be given work. In connection with this farm there will be a department for juvenile incorrigibles.

Ancon Library Association.

The directors of the Ancon Library Association are desirous of taking an inventory of the volumes, and request that all books now in the hands of subscribers be returned on or before Wednesday evening, May 25. The library contains several hundred volumes and it is estimated that there are between fifty and sixty regular patrons. The library is open for the exchange of books on Wednesday evening in each week.

Knights of Columbus.

Panama Council, Knights of Columbus, will hold an open meeting at Ancon hall, Sunday, May 22, at 1.30 p. m., for all Knights of Columbus and their families. A reception to Mr. and Mrs. L. K. Rourke, who are soon to leave the Zone, will be held at this meeting. All members and visiting Knights are requested to attend.

C. P. CONLAN,
Financial Secretary.

Corozal, May 16, 1910.

Odd Fellows.

THE CANAL RECORD:

All Odd Fellows and their ladies are cordially invited to attend the second anniversary of the institution of Canal Zone lodge, No. 3, of Culebra, to be held in Kangaroo hall, Empire, May 23, 1910, at 8 p. m. Special train to and from Culebra, leaving at 7.45 p. m. and returning after entertainment is over. There will be an entertainment, refreshments, followed by an informal dance.

CHAS. C. CAMERON, *Secretary.*

Culebra, C. Z., May 14, 1910.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Corozal, C. Z., on Sunday, May 22, 1910, at 7.30 p. m. The program follows:

1	March—*En Masse*	Reeves
2	Selection—*Faust*	Gounod
3	Waltz—*Impassioned Dream*	Rosas
4	*a* Irish Two Step—*The New Tipperary*	Fulton and Helf
	a Ragtime—*Pretzel Pete*	Durand
5	Overture—*Lustspeil*	Keler Bela
6	Intermezzo Elegante—*Les Contes des Hoffman* (By request)	Offenbach
7	Cuban Dance—*Juanita*	Buot
8	Medley Selection—*Amina*	Halle

Introducing "When Two Love Dearly," "Come After Breakfast," "To Err is Human, to Forgive Divine," "I Wish I Had My Old Girl Back Again," "That Teasing Rag," "My Way to Heaven is Through Your Love, Sweetheart," "I'm Not That Kind of a Girl," and "Amina."

9	Caprice—*Dance of the Nymphs*	Buglione
10	March—*That Fascinating Ragtime Glide*	Mills

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Empire, C. Z., on Sunday, May 29, at 6 p. m.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

The basketball game between Culebra and Empire on Wednesday, May 11, resulted in a score of 19 to 18 in favor of Empire.

The bowling match with Empire on Wednesday night, May 11, was won by Culebra, the following being the scores: Empire—729, 712, 839; Culebra—758, 767, 755.

The Empire boys won the indoor baseball game with Culebra last Saturday morning.

The bowling alleys will be closed for a few days for repairs. They will be opened again in time for players to get into shape for the tournament which is to begin in July.

EMPIRE.

In a series of games between Empire and Culebra, Monday and Wednesday of last week, Empire defeated Culebra at baseball, and was twice defeated by Culebra's bowling team. The pool tournament was not played owing to the nonappearance of the Culebra team.

A return game of basketball with Cristobal will be played at Empire on Saturday night of this week.

A debate will be held in the near future between teams captained by Dr. A. L. Haines and Mr. Perry Brown. The subject will probably be, "Resolved that the United States was not too liberal in its treaty of 1904 with Panama."

The Empire executive council at its last meeting voted to instal a handball court, in order to afford an interesting form of moderate exercise.

A regular class in systematic exercises will be held in the gymnasium every Monday and Thursday nights, from 7.30 to 9, beginning this week. The class will run for a period of three months. Following is a partial list of the work that will be given: Calisthenics—Dumb bells, free exercises, Indian clubs and bar bells. Apparatus—Mat work, side and long horse, parallel bars, horizontal bars and flying rings. Recreative games—Medicine ball, volley ball, handball, indoor baseball, basketball and gymnastic dancing.

GORGONA.

A moving picture entertainment was given last Tuesday night. The films were received recently from the States.

The hot-hand banquet, last Monday night, was a success. Music was furnished by the Gorgona orchestra, E. C. Briggs, director. The officers are: President, William Weiser; vice-president, T. S. Booz; secretary and treasurer, L. P. Robitoy; executioner, Jess T. Hopkins; assistant executioner, E. L. Emery. This society is a social club connected with the gymnasium class. Any member of the Y. M. C. A. is eligible to join.

GATUN.

The glee club will meet on Friday evening for weekly rehearsals. Each rehearsal shows splendid progress, and several new voices have been added to the club.

Bowling continues popular. The following match games were rolled last week:

Team No. 1, Capt. Gilmartin	760	822	752
Team No. 2, Capt. Severn	730	809	799
Team No. 3, Capt. Barte	746	856	691
Team No. 4, Capt. Louner	838	771	807

Matches between teams No. 1 and No. 3, and teams No. 2 and No. 4, have been arranged for this week.

CRISTOBAL.

At a business meeting of the Cristobal chess club held on May 10, the following officers were elected: L. E. DuBois, president; Alfred Schaff, vice-president; secretary, F. L. Pack; reception committee, E. R. Pike, Benjamin Ware and Walter J. Shutes. Among other business transactions the club decided to inaugurate a championship tournament to be held on Tuesday evening, June 7, and accepted the president's offer of a gold Y. M. C. A. championship medal, which will become the property of the winner. Each player will play one game with every other player, and the highest four contestants will play finals to determine the winner.

At the men's meeting last Sunday, Mr. Hardy assisted Mr. Goddard with a short talk. Mr. F. A. Mixer will speak next Sunday.

Last Thursday the course of Bible study, under the leadership of Judge Brown was completed, and in order to continue the session a discussion class was formed, which will meet every Thursday evening in the game room. It will be under a different leadership each week and topics of vital interest will be discussed. A complete schedule will be posted in the near future.

On Friday night of this week the Cristobal Y. M. C. A. juniors will have an indoor baseball and basketball exhibition in the gymnasium. It is probable that the Gatun boys will be played in baseball.

The Cristobal Y. M. C. A. minstrels gave their entertainment in the Colon bull ring on Monday night before a large crowd. Several new features were added to the program.

The standing in the local bowling tournament is as follows:

	Won.	Lost.	Percent.
Quartermasters	5	1	.833
Dry Dock	3	3	.500
Commissary-Subsistence	2	4	.336
Miscellaneous	2	4	.336

The bowling schedule for this week is as follows:

Monday—Commissary-Subsistence vs. Quartermasters.

Tuesday—Miscellaneous vs. Dry Dock.

Thursday—Commissary-Subsistence vs. Dry Dock.

Friday—Miscellaneous vs. Quartermasters.

Mr. W. H. Burrell of St. Augustine, Fla., has arrived at Cristobal and will take charge of the physical department. Mr. Burrell has bad experience in all branches of athletic work and in the near future will undertake systematic gymnasium classes.

Camp Elliott Y. M. C. A.

On Monday evening of this week the Command enjoyed a fine moving picture entertainment.

A dramatic club has been formed with Private Girarde as manager. The club will give its first entertainment on Friday evening of this week.

A big athletic meet is being planned for May 30. The committee has arranged for twenty events for intercompany competition.

The Sunday evening service last Sunday was conducted by Corporal Volz. A large audience was in attendance.

On Sunday afternoon of last week the first team defeated the second team at baseball by a score of 9 to 0.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, May 14, 1910.

Day and Date.	Stations.				
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Lake.)
Height of low water above sea-level, ft.	125	92	46	0	0
Maximum height ab. mean sea-level, feet:					
Sunday, May 8	130.6	97.1	52.4	18.6	17.2
Monday, May 9	128.0	94.7	48.2	17.6	17.2
Tuesday, May 10	128.0	94.5	47.7	17.3	16.9
Wed'esday, May 11	128.0	94.9	48.0	16.8	16.6
Thursday, May 12	128.4	95.0	48.1	16.4	16.2
Friday, May 13	131.0	95.0	49.1	16.1	15.9
Saturday, May 14	137.9	99.0	50.4	16.2	15.8

BASEBALL.

ISTHMIAN LEAGUE.

RESULTS OF GAMES, MAY 15.

Ancon, 9; Marines, 5.

Empire-Gorgona postponed, rain.

STANDING OF CLUBS.

	P.	W.	L.	Pc.		P.	W.	L.	Pc.
Empire	23	18	5	.782	Ancon	23	8	15	.348
Gorgona	25	18	7	.721	Marines	27	5	22	.185

SCHEDULE FOR MAY 22.

Marines at Ancon.

Empire at Gorgona.

Ancon.	AB.	H.	PO.	A.	E	Marines.	AB.	H.	PO.	A.	E
Snyder, 2b	4	2	0	0	0	Lubomski, ss.	4	1	2	0	2
Tinsley, ss	5	1	1	0	0	Scarff, 2b	3	2	2	2	1
L. Dren'n, rf, 1b	3	0	8	0	0	McGuire, 1b	4	2	10	0	0
Smith, c	4	1	6	0	0	Silke, lf	4	2	1	1	0
Hunter, cf	4	1	1	0	0	Shephard, cf	4	0	0	0	0
Keller, lf	4	3	2	0	0	Fields, 3b	4	0	1	3	1
Nygren, 1b	0	0	7	0	0	McCabe, c	4	1	2	2	1
R. Drennan, 3b	3	2	1	4	0	Richards, rf	3	0	1	0	1
Wrightson, p	2	0	1	8	0	Burns, p	4	1	2	3	0
Steele, rf	2	1	0	0	0	M'Dow'l, rf, 2b	1	0	1	0	0
						Munsen, p	0	0	0	1	2
Totals	31	11	27	12	0	Totals	35	9	22*	12	8

*Tinsley out in the third, hit by batted ball; Tinsley out in the seventh for interference.

Ancon..................... 0 1 0 0 1 2 1 4 x—9
Marines.................. 1 0 2 0 1 0 1 0 0—5

Runs—Ancon: Smith (2), Hunter (2), Keller (2), Nygren, Steele (2); Marines: Lubomski, Scarff, McGuire (2), Burns. Runs earned—Marines, 4; Ancon, 3. Two base hits—Lubomski, McGuire, Silke. Sacrifice hits—Scarff, R. Drennan, Wrightson (2). Stolen bases—Scarff, Lubomski, Tinsley, Smith, Hunter. Bases on balls—Off Wrightson, 1; off Burns, 1; off Munsen, 2. Struck out—By Wrightson, 5; by Burns, 1. Hit by pitcher—By Burns—Nygren. Left on bases—Ancon, 5; Marines, 5. Umpire—Booth. Time of game—2.10. Scorer—J. K. Munroe.

ATLANTIC LEAGUE.

RESULTS OF GAMES, MAY 15.

Civil Administration, 13; Colon, 5.

Colon, 6; Civil Administration, 4.

STANDING OF CLUBS.

	P.	W.	L.	Pc.		P.	W.	L.	Pc.
Com-Sub	13	10	3	.768	Civ. Adm.	13	5	8	.384
P. R. R.	11	5	6	.454	Colon	13	5	8	.384

SCHEDULE FOR MAY 22.

Com.-Subsistence vs. Civil Administration.

FIRST GAME.

C. A.	AB.	H.	PO.	A.	E	Colon.	R.	H.	PO.	A.	E
Edwards, ss.	3	1	3	2	0	Dockery, 3b.	3	1	2	1	0
Ferrar, cf	4	1	0	0	0	Murry, ss	2	1	1	1	0
Russell, lf, p.	3	2	0	3	0	Cleary, 2b	4	2	1	0	1
Lewis, c	3	1	9	1	0	Parker, 1b	4	1	5	0	2
Fleishman, 3b.	4	2	0	3	2	McGinnis, cf.	3	0	2	0	0
Blaine, lf, rf.	4	2	0	0	0	Hope, lf	3	0	0	0	0
Major, 2b	4	1	1	2	1	Stevens, p	2	0	0	4	0
Freel, 1b	3	0	8	0	1	Souders, rf	3	0	2	2	1
Doyle, p, rf	1	0	0	0	1	Davis, c	3	1	5	1	1
Roos, rf	2	0	0	1	0						
Totals	31	10	21	12	5	Totals	27	6	18	9	5

Civil Administration......... 2 0 5 2 1 3 x—13
Colon........................ 0 1 2 0 2 0 0— 5

Runs—C. A.: Edwards, Ferrar (2), Russell (4), Lewis (2), Fleishman, Blaine, Major, Freel; Colon: Dockery, Cleary, Parker, Stevens, Davis. Runs earned—C. A., 4. Two base hit—Major. First base on errors—Colon, 3; C. A. 4. Home run—Lewis. Stolen bases—Edwards (2), McGinnis, Davis. Bases on balls—Off Doyle, 5 (in 2 innings); off Stevens, 3. Struck out—By Doyle, 2; by Russell, 5; by Stevens, 5. Hit by pitcher—Lewis Left on bases—Colon, 6; C. A., 4. Umpires—Durand and Gilmartin. Time of game—1.30. Scorer—Rennard.

SECOND GAME.

Colon.	AB.	H.	PO.	A.	E	C. A.	AB.	H.	PO.	A.	E
Dockery, 3b.	2	1	3	1	0	Edwards, ss.	4	2	0	0	0
Murry, lf	3	0	0	0	0	Ferrar, cf	4	0	1	0	0
Cleary, 2b	1	0	3	0	0	Russell, p	4	1	1	1	0
Parker, p	3	2	2	3	1	Lewis, 2b	2	0	1	0	0
McGinnis, cf.	3	1	1	0	0	Fleishman, 3b.	2	1	1	1	0
Weber, ss.	3	0	0	1	0	Blaine, lf	3	0	0	0	2
Stevens, 1b	3	0	5	1	0	Major, rf	3	1	3	0	0
Souders, rf	1	0	0	0	0	Freel, 1b	3	1	2	0	0
Davis, c	3	1	6	1	1	Roos, c	2	0	9	0	0
Hope, rf	2	1	1	0	0	*Rex	1	0	0	0	0
Totals	24	6	21	7	2	Totals	28	6	18	2	2

*Batted for Roos in the seventh.

Colon........................ 3 0 0 0 3 0 x—6
Civil Administration......... 1 0 0 0 0 1 2—4

Runs—Colon: Dockery (2), Cleary, Parker, Davis, Hope; C. A.: Edwards, Russell, Major, Freel. Runs earned—Colon, 2; C. A., 1. Two base hits—Russell, Parker. First base on errors—Colon, 1; C. A.; 2. Sacrifice fly—Cleary. Stolen bases—Edwards, Major, McGinnis. Bases on balls—Off Parker, 2; off Russel, 2. Struck out—By Parker, 5; by Russell, 9. Left on bases—C. A., 5; Colon, 3. Umpires—Durand and Gilmartin. Time of game—1.15. Scorer—Rennard.

Misdirected Letters.

Division of Posts, Customs and Revenues,
Ancon, C. Z., May 11, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Archbold, Glover
Baily, Mrs. Edgar
Baldon, C. H.
Basanta, Dalwari
Beaumont Joseph, Jr.
Beauregard, Mr. (Yardmaster)
Bready, P.
Brittingham, Miss J.
Brown, John J.
Buestario, Emanuel
Cheney, John W.
Cooley, Capt. Martin
Davies, J. L.
Decker, Mrs. Dell
Douglass, Mrs. Stephen
Downs, William
Eliet, Robert
Garvey, Jos. T.
Greenidge, Samuel
Hayes, Mrs. James
Henry, Alfred E.
Hoze, Joseph B.
Jacobson, Dr. E. N.
Johnson, A. S.
Kerleer, S.
Kuhlman, Henry
Larrabee, Ralph
Leach, Mrs. Allie
Lindersmith, W. W.
Maynard, Gordon
Mitchell, W. S.
Murary, Wm.
Newhall, Geo.
Nichols, Mrs. J. N.
O'Neill, John J.
Reilley, Mrs. Charles J.
Rubier, H. C.
Simmons, Mrs. Allie
Sinclair, E. H.
Stanziola, Antonio
Stevens, Henry Francis
Suny, James
Thayer, J. P.
Thomson, J. Milo
Wagner Charles Bragdon
Winget, W. S.

PANAMA RAILROAD COMPANY.

PASSENGER TRAIN TIME TABLE No. 6—IN EFFECT MAY 22, 1910.

SOUTHWARD.								Miles from Colon.	STATIONS.	NORTHWARD.									
SUNDAYS AND HOLIDAYS.					WEEK DAYS.					WEEK DAYS.				SUNDAYS AND HOLIDAYS.					
29	27	25	23	21	7	5	3			2	4	6	8	20	22	24	26	28	30
P. M.	P. M.	P. M.	A. M.	A. M.	P. M.	A. M.	A. M.			A. M.	P. M.	P. M.	P. M.	A. M.	P. M.	P. M.	P. M.	P. M.	P. M.
7.00	4.00	1.00	10.00	6.45	4.35	10.30	5.15	0.00	Leave. †Colon. Arrive.	9.05	1.15	3.50	7.45	9.00	12.15	3.15	6.15	9.15	11.55
7.05	4.05	1.05	10.05	f 6.50	4.40	f 10.37	5.20	1.77	†Mount Hope	8.58	f 1.07	f 3.42	7.39	8.53	f 12.08	f 3.08	f 6.08	f 9.08	f 11.48
f 7.10	f 4.10	f 1.10	f 10.10	f 6.55	f 4.44	f 10.42	f 5.25	4.37	Mindi	f 8.51	f 1.01	f 3.36	f 7.31	f 8.47	f 12.02	3.02	f 6.02	f 9.02	f 11.42
7.18	4.18	1.18	10.18	7.03	4 52	10.50	5.33	6 79	†Gatun	8.43	12.54	3.30	7.22	8.40	P. M. 11.55	2.55	5.55	8.55	11.35
f 7.27	f 4.27	f 1.27	f 10.27	f 7.12	f 5.01	f 11.00	5.42	10.41	Lion Hill	8.33	f 12.42	3.19	7.14	f 8.29	f 11.44	f 2.44	f 5.44	f 8.44	f 11.24
f 7.33	f 4.33	f 1.33	f 10.33	f 7.18	f 5.06	f 11.06	f 5.49	12.48	Ahorca Lagarto	8.27	f 12.35	3.13	f 7.07	f 8 23	f 11.38	f 2.38	f 5.38	f 8.38	f 11.18
7.40	4.40	1.40	10.40	7.25	5.13	11.13	5.56	15.26	†Bohio	8.20	12.29	3.05	7.01	8 18	11.33	2.33	5.33	8.33	11.13
7.47	4.47	1.47	10.47	7.32	5.22	11.22	f 6.05	18 51	Frijoles	8.10	f 12.21	f 2.58	6.54	8.10	f 11.25	f 2.25	f 5.25	f 8.25	f 11.05
7.55	4.55	1.55	10.55	7.40	5.31	11.31	6 12	21.37	†Tabernilla	8.03	12.15	2.50	6.48	8.04	11.19	2.19	5.19	8.19	10.59
8.00	5.00	2.00	11 00	7.45	5.37	11.37	6.18	23.30	†San Pablo	7.58	12.08	2.46	6.43	7.57	f 11.12	2.12	5.12	8.12	10.52
f 8.02	f 5.02	f 2.02	11.02	f 7.47	f 5.40	f 11.40	6.20	24.31	Bailamonos	......	f 12.03	2.43	f 6.40	f 7.53	f 11.08	f 2 08	f 5.08	f 8.08	f 10.48
8.08	5.03	2.08	f 11.08	7.51	5.45	11.45	6.25	25.74	†Mamei	7.50	12.01	2.40	6.37	7.49	11.04	2.04	5.04	8.04	10 44
8.13	5.13	2.13	11.13	7.58	5.53	11.53	6.33	28.27	†Gorgona	7.41	P. M. 11.53	2.32	6.32	7.42	10.57	1.57	4.57	7.57	10.37
8.18	5.18	2.18	11.18	8.03	5.58	11.58	6 37	29.68	†Matachin	7.36	11.48	f 2.27	6.27	7.37	10.52	1.52	4.52	f 7.52	f 10.32
8.22	5.22	2.22	11.22	8 08	6.03	P. M. 12.03	6.42	31.01	†Bas Obispo	7.32	11.43	2.23	6.23	7.33	10.48	1.48	4.48	f 7.48	f 10.28
8.29	5.29	2.29	11.29	8.16	6.10	12.10	6.49	32.62	†Las Cascadas	7.25	11.35	2.16	6.17	7.25	10.40	1.40	4.40	7.40	10.20
8.34	5.34	2.34	11.34	8.21	6.17	12.17	6.56	34.91	†Empire	7.17	11.29	2.10	6.12	7.21	10.36	1.36	4.36	7.36	10.16
8.39	5.39	2.39	11.39	8.26	6.22	12.22	7.03	35.90	†Culebra	7.10	11.24	2.05	6.08	7.15	10.30	1.30	4.30	7.30	10.10
8.47	5.47	2.47	11.47	8.35	6.32	12 32	7.10	39.71	Paraiso	6.54	11.11	1.50	5.54	f 7.06	f 10 21	1.21	4.21	f 7.21	10.01
8.51	5.51	2.51	11.51	8.40	6.37	12 38	7.13	40.37	†Pedro Miguel	6.50	11.07	1.48	5.50	7.03	10.18	1.18	4.18	7.18	9.58
8.56	5.56	2.56	11.56	8.45	6.42	12.43	7.17	41 73	†Miraflores	6.46	11.02	f 1.44	5.46	7.00	10.15	1.15	4.15	f 7.15	f 9.55
9.04	6.04	3.04	P. M. 12.04	8.51	6.50	12.50	7.21	44.31	†Corozal	6.39	10.54	1.38	5.38	6.53	10.08	1.08	4.08	7.08	9.48
f 9.06	f 6.06	f 3.06	f 12 06	f 8.53	f 6.52	f 12.52	f 7.23	....	Camp Diablo	f 6.35	f 10.50	f 1.34	f 5.35	f 6.49	f 10.04	f 1.04	f 4.04	f 7.04	f 9.44
9.15	6.15	3.15	12.15	9.00	7.00	1.00	7.30	47.14	Arrive. †Panama. Leave.	6.30	10.45	1.30	5.30	6.45	10.00	1.00	4.00	7.00	9.40
P. M.	P. M.	P. M.	P. M.	A. M.	P. M.	P. M.	A. M.			A. M.	A. M.	P. M.	P. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.
29	27	25	23	21	7	5	3		†Telegraph station. f Flag station.	2	4	6	8	20	22	24	26	28	30

COMMISSARY DEPARTMENT.

One Delivery a Day.

PANAMA RAILROAD COMPANY,
COMMISSARY DEPARTMENT,
CRISTOBAL, C. Z., May 17, 1910.

CIRCULAR NO. 178-B:

Commissary Storekeepers—Effective May 18th, but one delivery will be made each day of cold storage articles and groceries, orders for which will be taken on the previous day.

At the smaller stations, where it is possible to do so, deliveries will be made with the ice in the early morning, but where this is not possible deliveries will be made as soon as the wagons are available after delivery of ice. JOHN BURKE, *Manager.*

Approved:
F. O. WHITLOCK, *Acting Subsistence Officer.*

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning May 17.

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (5 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (5 to 8 pounds)	per lb	24
Chops	per lb	26
Cutlets	per lb	26
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	2
Soup	per lb	5
Stew	per lb	9
Corned	per lb.,	12, 14, 16
Chuck roast	per lb	13
Pot roast	per lb	15
Rib-roast, second cut (not under 3½ pounds)	per lb	18
Rib-roast, first cut (not under 3 pounds)	per lb	20
Sirloin roast	per lb	21
Rump roast	per lb	21
Porterhouse roast	per lb	21
Steak, Chuck	per lb	14
Round	per lb	15
Rib	per lb	20
Sirloin	per lb	21
Porterhouse	per lb	21
Rump	per lb	21
Tenderloin	per lb	24

MISCELLANEOUS.

Livers—Beef	per lb	8
Calf	each	60
Half	each	30
Sausage—Pork	per lb	17
Bologna	per lb	14
Frankfurter	per lb	14
Leberwurst	per lb	14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	25
Eggs, fresh	dozen	28
Oysters, in 1-quart kegs	keg	55
Shads	each	75
Shad Roes	pair	40

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each	70, 82, 93, 1.04, 1.15
Ducks, large	each	1.50
medium	each	1.30
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese	each	2.50
Pheasants	each	70, 1.00
Partridges	each	50
Grouse	each	85

CURED AND PICKLED MEATS.

Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Sugar cured	per lb	†21
Sugar-cured, sliced	per lb	†25
Half, for boiling	per lb	†22
Boiled	per lb	28
Hocks	per lb	‡8
Bacon—Breakfast, whole piece	per lb	28
Breakfast, sliced	per lb	29
Beef, salt, family	per lb	†12
Pork, salt, family	per lb	18
Ox tongues	each	80
Pigs' feet	per lb	10
tongues	per lb	16
Mutton, mess	per lb	7

DAIRY PRODUCTS.

Butter—Creamery special	per lb	40
Cheese—Roquefort	per lb	38
Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	26
Edam	each	1.00
Neufchatel	each	6
Gouda	per lb	34
Milk, Briarcliff	bottle	**25

VEGETABLES AND FRUITS.

Celery	per hd	8
Lettuce	per hd	8, 12, 16
Cucumbers	per lb	12
Potatoes, white, old	per lb	†3
white, new	per lb	4
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	5
Tomatoes	per lb	8
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	3
Cabbage, new	per lb	4½
Rhubarb	per lb	7
Spinach	per lb	5
Lemons	dozen	24
Apples	per lb	5
Tangerines	each	2
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4
Pineapples	each	18

*Indicates reduction from last list.
**Indicates 5 cents allowed for return of bottle.
†Indicates advance on last list.
‡Sold only from Commissaries; no orders taken for delivery.
§Sold only from Cold Storage and not from Commissaries.

Supplies for Canal Work.

The following steamers, with supplies for the Isthmian Canal Commission, arrived at the ports of Cristobal and Colon, and Balboa, during the week ending May 14, 1910:

Mancunia, May 9, from Seattle, Wash., with 12 pine masts, and 217,921 feet fir lumber for Pacific Division; 78,848 feet fir lumber for Central Division; 100,122 feet fir lumber for Atlantic Division; 271,296 feet fir lumber for stock.

Everset, May 9, from Mobile, Ala., with 23 tons castings for Pacific Division; 19,015 cross-ties, and 1,550 piles for stock.

Albanian, May 8, from Liverpool, with 11 tons of castings for Pacific Division; 145 barrels carbolic acid for stock.

Siberia, May 10, from New York, with 18,500 feet tape fuse for Central Division; 500 bundles tie plates for Atlantic Division; 76 coils rope, 109 tons steel plates, rods, etc., and 5,500 bundles tie and anchor plates for stock.

Turrialba, May 12, from New Orleans, with 98 tons car parts for Cristobal shop (for erection); 18 tons castings for Central Division; 13,600 feet yellow pine lumber and 4 derrick engines for Pacific Division; 8,535 feet yellow pine lumber for dry dock store; 121,498 feet yellow pine lumber and 1,337 yellow pine cross-ties for stock.

Almirante, May 13, from New York, with 1 engine and boiler for Pacific Division; 63 tons castings for Gatun and Pedro Miguel Locks; 150 bundles timber carriers for stock.

Panama, May 13, from New York, with 29 packages medical supplies for Sanitary Department; 50 drums lubricating oil for Empire, Mechanical Division; 20 tons bolts and rivets, 14 tons cast iron pipes, 11 tons hotel utensils, 168 tons wrought iron pipe, 100 kegs paint, 50 kegs spikes and 74 tons steel plates, bars, etc. for stock, and a miscellaneous cargo consisting of 4,571 packages weighing 483 tons.

Auction of Dump Carts.

There will be sold at public auction, 17 dump carts, 2-wheel, for cash, to the highest bidder, at Ancon corral, Friday, May 27, 1910, at 2 p. m. For particulars apply to the District Quartermaster, Ancon.

The following vessels arrived at and departed from the port of Balboa during the week ending May 14:

Arrivals—May 8, *Mancunia*, from Puget Sound; May 10, *Ucayali*, from south ports, and *City of Panama*, from San Francisco; May 13, *Chile* from south ports; May 14, *Arica*, from Guayaquil.

Departures—May 8, *Ecuador*, for Guayaquil, and *Aysen*, for south ports; May 12, *Quito*, for Buenaventura and Tumaco, and *City of Sydney*, for San Francisco; May 13, *Mancunia* and *Ucayali*, for south ports.

LOST—Gold, flowered cuff button with small uncut diamond, near building No. 1, Cristobal, or in Camp Bierd road, May 13. Finder kindly forward to Chief Clerk, Health office, Cristobal.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Allianca	P. R. R.	Thursday	May 12
Colon	P. R. R.	Wednesday	May 18
Advance	P. R. R.	Tuesday	May 24
Panama	P R. R.	Tuesday	May 31
Allianca	P. R. R.	Monday	June 6
Colon	P. R. R.	Monday	June 13
Advance	P. R. R.	Saturday	June 18
Panama	P. R. R.	Friday	June 24
Allianca	P. R. R.	Thursday	June 30
Colon	P. R. R.	Thursday	July 7
Advance	P. R. R.	Tuesday	July 12
Panama	P. R. R.	Monday	July 18
Allianca	P. R. R.	Saturday	July 23
Colon	P. R. R.	Friday	July 29

CRISTOBAL TO NEW YORK.

Panama	P. R. R.	Wednesday	May 18
Allianca	P. R. R.	Wednesday	May 25
Colon	P. R. R.	Tuesday	May 31
Advance	P. R. R.	Monday	June 6
Panama	P. R. R.	Sunday	June 12
Allianca	P. R. R.	Saturday	June 18
Colon	P. R. R.	Saturday	June 25
Advance	P. R. R.	Thursday	June 30
Panama	P. R. R.	Wednesday	July 6
Allianca	P. R. R.	Tuesday	July 12
Colon	P. R. R.	Tuesday	July 19
Advance	P. R. R.	Saturday	July 23
Panama	P. R. R.	Saturday	July 30
Allianca	P. R. R.	Thursday	Aug. 4
Colon	P. R. R.	Wednesday	Aug. 10

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

NEW YORK TO COLON.

Santa Marta	U. F. C.	Thursday	May 12
Metapan	U. F. C.	Thursday	May 19
Prinz Joachim	H.-A	Saturday	May 21
Zacapa	U. F. C.	Thursday	May 26
Prinz Aug. Wilhelm	H.-A	Saturday	June 4
Metapan	U. F. C.	Friday	June 3
Prinz Joachim	H.-A	Saturday	June 18
Prinz Aug. Wilhelm	H.-A	Saturday	July 2
Prinz Joachim	H.-A	Saturday	July 16
Prinz Aug. Wilhelm	H.-A	Saturday	July 30
Prinz Joachim	H.-A	Saturday	Aug. 13
Prinz Aug. Wilhelm	H.-A	Saturday	Aug. 27
Prinz Joachim	H.-A	Saturday	Sept. 10
Prinz Aug. Wilhelm	H.-A	Saturday	Sept. 24

COLON TO NEW YORK.

Almirante	U. F. C.	Friday	May 20
Prinz Aug. Wilhelm	H.-A	Tuesday	May 24
Santa Marta	U. F. C.	Friday	May 27
Prinz Joachim	H.-A	Tuesday	June 7
Prinz Aug. Wilhelm	H.-A	Tuesday	June 21
Prinz Joachim	H.-A	Tuesday	July 5
Prinz Aug. Wilhelm	H.-A	Tuesday	July 19
Prinz Joachim	H.-A	Tuesday	Aug. 2
Prinz Aug. Wilhelm	H.-A	Tuesday	Aug. 16
Prinz Joachim	H..A	Tuesday	Aug. 30
Prinz Aug. Wilhelm	H.-A	Tuesday	Sept. 13
Prinz Joachim	H.-A	Tuesday	Sept. 27

NEW ORLEANS TO COLON.

Abangarez	U.F.C.	Saturday	May 14
Atenas	U.F.C.	Saturday	May 21
Turrialba	U.F.C.	Saturday	May 28

COLON TO NEW ORLEANS.

Turrialba	U.F.C.	Thursday	May 19
Abangarez	U.F.C.	Thursday	May 26
Atenas	U.F.C.	Thursday	June 2

The next sailings of the Leyland Line will be as follows: *Antillian* May 20, for Kingston, Ja., Tampa and New Orleans, *Colonian* June 11, and *Californian* June 20, for New Orleans, via Kingston, Ja.

Hamburg-American steamers leave for New York at 10 a. m., and for Port Limon every Wednesday at 2 p. m.

Royal Mail steamers leave for New York early in the morning and passengers should be on board the night before.

United Fruit Company ships for New Orleans leave at 3 p. m., and for New York at 10 a. m.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, MAY 25, 1910. No. 39.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

NOTES OF PROGRESS.

Increase in Shipments of Cement.

The amount of cement to be shipped from the States to the Isthmus for the Canal work after June 1 has been increased from 4,800 barrels a day to 5,300 barrels a day. Of this amount 3,300 barrels will come packed in wooden containers, and 2,000 barrels in canvas bags.

Breaks in Culebra Cut Slides.

The slides in Culebra Cut at Cucaracha and Culebra received a new impetus on May 17, and when work was begun on the morning of the 18th, 12 steam shovels were unable to resume. Some of the shovels were out of service only a few hours, and all of them are now in operation. No new breaks occurred in the slides, but a large quantity of material that had been moving gradually into the excavation broke away from the main mass and slid rapidly into the prism of the Canal.

At Cucaracha the movement had accelerated noticeably at 6 p. m. on May 17, and was most evident in the older part of the slide near Gold Hill. Between that time and 7 o'clock the next morning a mass of mud and rock estimated at 500,000 cubic yards had moved from the east bank of the Cut across the bottom, and stopped only when it reached the toe of the west bank. The pioneer cut through the center was filled from stations 1815 to 1824, a distance of 900 feet, and all of the through tracks were covered or broken. One of the through tracks on the west side was opened for traffic before 10 o'clock that morning, and the east levels on which the shovels were at work were gradually restored during the succeeding four days. Two steam shovels were put entirely out of service, and the outlet tracks for eight other shovels were blocked, causing temporary suspension. The pioneer shovel cut is used for drainage and it has been cleared sufficiently to permit the water south of the summit of Culebra Cut to drain freely.

The slide on the east side of the Canal at Culebra broke in much the same way as that at Cucaracha, although the amount of material that moved into the Canal was comparatively small. Two steam shovels were put out of service and the main tracks were covered or broken. The drainage ditch was closed but was opened again by hand excavation. The work at this point was delayed only a few hours.

Steam shovels are at work digging out the material of both slides as it moves into the prism, and the yardage in the Culebra district is again about normal.

Railroad Crossing at Paraiso.

In conformity with the recommendations of a board appointed to determine the best method for the Panama railroad to cross Culebra Cut at or near Paraiso, the Acting Chief Engineer has approved a plan by which the present crossing at Paraiso will be continued. The steam shovels will work as close to the bridge on either side as safety will permit, leaving about 12,000 cubic yards of material to be excavated after the company has begun to use the relocated line through Culebra Cut. The question was raised in connection with the excavation for a ship basin at the north end of Pedro Miguel Locks, work on which has been begun.

The basin will extend east of the center line of the Canal so far that about 800 feet of the present main line of the Panama railroad will be included in the excavation. It is possible, however, to excavate 359,849 cubic yards of the total of 1,500,000 without disturbing either the Panama railroad tracks, or the sand and rock trestles of the Pedro Miguel concrete plant layout.

Obispo Diversion Repaired.

Temporary repairs in the Obispo Diversion at Empire, the bank of which broke on May 7, allowing the water to flow into Culebra Cut, were completed on May 12. The bank on the east side was cut back into the hill far enough to permit the construction of a ditch that will carry off the water while the permanent repairs are in progress. A two-inch rain fell a few days after the temporary repairs were made thus giving them a practical test. The permanent repairs will consist of a wooden flume, the details of which were given in THE CANAL RECORD of May 11. This work has been begun. The railroad track along the east side of the Cut, which was broken by the break in the diversion bank, was connected last week.

The Use of Canal Zone Highways.

A board has been appointed to determine a method by which, if it is thought desirable to do so, a tax may be imposed for the maintenance of the Canal Zone highways now in use and under construction. These roads have been constructed from Canal Zone funds raised by local taxation for the purpose of opening the country and affording access to the local markets.

BUILDING THE LOCKS.

Three Thousand Yards of Concrete Daily at Gatun—Progress at Pedro Miguel and Miraflores.

Nearly one-eighth of the total amount of concrete to be laid in the locks had been placed at the close of work on May 21, when the total was 531,607 cubic yards—401,112 at Gatun Locks and 130,495 in the locks at Pedro Miguel. The concrete work is advancing at the rate of 4,000 cubic yards a day and by July 1, when the entire plant at Pedro Miguel will be in operation, the daily rate will be 5,500 cubic yards.

At Gatun Locks during the two weeks ending May 21, there were placed 35,022 cubic yards, a daily average of 2,918 cubic yards, the main plant of 8 mixers being in operation about 10 hours a day, and the auxiliary plant of two mixers 8 hours a day. The operation of these two plants last week was typical, and was as follows:

DATE.	CONSTRUCTION PLANT.			AUXILIARY PLANT.		
	Concrete Laid—Cu. Yds.	Hours worked.	No. mixers used.	Concrete laid—Cu. Yds.	Hours worked.	No. mixers used.
May 16. ...	2,040	50:00	6	928	8:15	2
May 17.....	2,210	50:10	4	894	8:15	2
May 18.....	1,852	64:30	6	832	8:15	2
May 19.....	2,004	59:30	8	596	6:15	2
May 20.....	2,292	76:02	6	561	8:15	2
May 21.....	1,910	58:00	6	684	8:15	2
Total	12,308	....	....	4,495	....	....

The regular statement of concrete laid in Gatun Locks during the week ending May 21 follows:

	CUBIC YARDS.		
	Large stone.	Concrete.	Total.
May 16....................	94	2,968	3,062
May 17....................	137½	3,104	3,241½
May 18....................	105	2,684	2,789
May 19....................	132	2,600	2,732
May 20....................	108	2,853	2,961
May 21....................	117	2,594	2,711
Total..................	693½	16,803	17,496½
Previously reported...	....	....	383,615½
Grand total........	....	....	401,112

Three hundred and twenty-four cubic yards of concrete were laid in the spillway of Gatun Dam during the week.

At Pedro Miguel Locks a rate of nearly 1,000 cubic yards a day is maintained by the half of the mixing and handling plant in operation, the amounts for the week ending May 21, being 5,270 cubic yards by the construction plant, using two mixers and working about 7 hours a day, and 1,339 cubic yards by the auxiliary plant of one 2-yard and two ½-yard mixers working about 6 hours a day. The second mixing crane at Pedro Miguel is ready for operation, but the placing cranes which it will serve will not be in position to operate until next month.

A statement of the concrete placed at Pedro Miguel Locks follows:

	Cubic Yards.		
	Large stone.	Concrete.	Total.
May 16	....	1,193	1,193
May 17	....	907	907
May 18	....	1,167	1,167
May 19	25	1,258½	1,283½
May 20	6	1,208½	1,214½
May 21	15	875	890
Total	46	6,609	6,655
Previously reported	....	....	123,840
Grand total	....	....	130,495

At Miraflores Locks the bodies of the two berm or mixing cranes are in process of erection, and the storing of rock and sand along the east storage trestle has been begun. The upper chamber has been ready for the placing of concrete for some time past. The hydraulic slucing and dredging plant which will continue the work in the lower chamber and its approaches will be ready for operation in July.

Rock Crushed at Porto Bello.

A statement of the work done at the Porto Bello crusher, by days, for the week ending May 21, follows:

Date.	Hours worked.	Cubic Yards.
May 16	12:10	2,515
May 17	9:30	1,980
May 18	11:10	2,490
May 19	12:15	3,045
May 20	12:50	2,740
May 21	12:10	2,505
Total	70:10	15,275

Slide Endangers Convict Camp.

A movement in the east bank of Culebra Cut opposite Culebra became so marked last week that the Division of Police, after consultation with the Acting Division Engineer of the Central Division, decided to move the convicts from Gold Hill camp to the penitentiary at Culebra. There is no immediate danger of the half dozen buildings at the stockade being wrecked by the slide or being carried by it into the Cut, but it was deemed wise to move the prisoners so as to avoid the stampede that might result if the bank gave way suddenly, as part of the slide at Cucaracha did. The prisoners confined at this camp were working on the highway from Empire to Paraiso, which runs along the edge of the Cut from Empire to Gold Hill and then back of that hill into Paraiso.

The School Gardens.

The experimental gardens established in connection with the Canal Zone schools for colored children have completed the first six months, the first seed having been sown in January. The object of these gardens is: (1) to discover the horticultural possibilities of the Canal Zone soil; and (2) to give training for the work for which the pupils are best adapted. In connection with the former purpose, the present effort is confined to ascertaining what fruits and vegetables may be raised at a profit. When this has been determined, effort will be concentrated on raising them.

The gardens are situated at Gatun, Culebra, Balboa and Empire, that in Empire covering an area of three-quarters of an acre. The work is under the supervision of a graduate of the agricultural college at Kingston, Jamaica. The pupils work for three periods a week, from 2 to 4 o'clock in the afternoon. The products have been okra, pumpkins, cucumbers, tomatoes, radishes, lettuce, beans, gumbo, turnips, and sweet potatoes. Banana trees have been set out in Empire and these will bear during the early months of 1911. Flowers are also cultivated, mainly native and Jamaica plants.

It was the original intention to confine the gardening to boys, but the girls showed such desire to join in the work that they were permitted to enter the classes. At the present rate the gardens will produce vegetables to the value of $200 gold in one year. The work is done by children ranging from six to twelve years. They are allowed to take the products home. In some cases they sell them, while in others they use them at home.

The work has been so arranged that the gardens will produce up to the end of the school year, June 30. After that, they will be sown with cow peas, which will be allowed to grow wild and be turned under for fertilization. Planting will be resumed in October. It is estimated that after the first outlay the gardens will be operated at a cost of $100 for the year. The general effect on the pupils and the low rate of maintenance of the gardens have been promising, and it is expected that four or five more gardens will be established in October.

Sale of Scrap Iron in Open Market.

It has been determined for the present to continue the sale of the old iron and steel no longer useful in the Canal work in the open market in the States. The New York office of the Commission will call the attention of "scrap" men throughout the country to the opportunity to buy the material, and the ships that carry it may be diverted to Philadelphia or Baltimore to unload the iron if it is thought desirable to do so.

Seismograph Records.

A movement of considerable intensity was registered by the seismographs at Ancon observatory between 7.05 and 7.55 o'clock on the morning of May 20. The direction of the shock was apparently northerly and the distance from the Canal Zone about 600 miles. A severe momentary shock early in the morning of May 18, which was felt locally was registered by the seismographs, but the trace had the appearance of a record of a dynamite blast. It may have been caused by the material in the slide at Cucaracha in Culebra Cut, which had considerable movement at that time.

Homicide near Pedro Miguel.

Francisco Ortega was beaten with a stick by Marceline Araba, his brother-in-law, at Channie's ranch about one mile southeast of Pedro Miguel on the morning of May 16, and died a few hours after. Both men had been drinking and had engaged in a quarrel in which Araba was beating Ortega when they were separated. Before surgical aid could be given Ortega he died. Araba is in custody.

Accidental Death.

James F. Clark, a white American, in the employ of the Department of Construction and Engineering, was killed on the Panama railroad at Pedro Miguel on the morning of May 14. The driver of the locomotive that caused the death states that the man was lying on the track with his head on one of the rails. Mr. Clark was born at Scranton, Pa., in 1886 and had lived on the Isthmus 2 years and 4 months, his last place of residence being at Paraiso. He was unmarried.

Canal Medals Uncalled For.

In order to facilitate the distribution of a number of the service medals of the first issue, which are now held by the Washington office, for lack of address, the attached list of medal numbers is published, with the names of the employes to whom awarded:

No. 110, Allen, Charles.
No. 1982, Alvord, C. A.
No. 2207, Ball, G. P.
No. 140, Barbour, J. H. (deceased.)
No. 200, Barton, Dr. F. R.
No. 1369, Billingslea, L. E.
No. 629, Blum, Robert.
No. 2247, Boyd, D. R.
No. 732, Brand, E. W. (deceased.)
No. 1156, Brown, H. M. (P. R. R.)
No. 542, Brown, R. L. (P. R. R.)
No. 398, Bryan, T. A. (deceased.)
No. 1088, Bryant, E.
No. 38, Burson, W. B.
No. 1165, Carnott, Wm.
No. 1498, Davies, P. A.
No. 32, Dean, J. W. (P. R. R.)
No. 519, Ericksen, Henry.
No. 1619, Ford, J. R. (P. R R.)
No. 163, Fountain, J. H. (deceased.)
No. 239, Freeman, T. C.
No. 459, Garland, T. P.
No. 573, Gleason, J.
No. 1217, Graeser, W. H. (P. R. R.)
No. 375, Griffin, P. J. (deceased.)
No. 119, Heath, G. A.
No. 69, Hill, G. (deceased.)
No. 1114, Jameson, H. (P. R. R.)
No. 1373, Janson, John.
No. 2263, Kidd, A. R.
No. 389, Kino, Fred.
No. 16, Koch, H. E. (P. R. R.)
No. 197, Larned, Lucy G.
No. 958, Larson, F.
No. 288, Lightner, H. W. (deceased.)
No. 689, Lynch, Cornelius
No. 485, McDonald, D. G. (deceased.)
No. 708, Martin, James.
No. 1015, Matis, C.
No. 191, Morgan, J.
No. 34, O'Brien, W. S. (P. R. R.)
No. 768, O'Neill, E. F.
No. 207, Prescott, R. D. (P. R. R.)
No. 112, Richards, Roy.
No. 559, Roch, F. (deceased.)
No. 111, Rocks, J.
No. 187, Shean, D. (deceased.)
No. 1120, Smith, N. H.
No. 900, Smith, R. B.
No. 2067, Spencer, C.
No. 1131, Stacey, P. H.
No. 552, Thrasher, L. C. (P. R. R.)
No. 349, Von Baumgarten, Carl.
No. 1400, Warren, D. S.
No. 265, Watson, Wm. S.
No. 1072, Webster, I. E. (P. R. R.)

Canal Zone Residence and Naturalization.

In reply to an inquiry from the Washington office of the Commission as to "whether the new naturalization law allows the time spent by an alien employe of the United States in the Panama Canal Zone, or other possession, to count in making the five years' residence required for citizenship," the Bureau of Naturalization of the Department of Commerce and Labor has replied:

"* * * The question is one of judicial character, and therefore one upon which, in so far as it has not already been settled by competent authority, the Department can only express its own opinion as to the proper interpretation of the law. It seems to be definitely settled that residence in the Philippine Islands, Porto Rico, Hawaii, or

Alaska is deemed residence in the United States within the five years' residence clause of the existing law. So far as the Canal Zone is concerned the Department is aware of no case in which the contention has been made that residence there would satisfy the requirements of the naturalization law. On the other hand, without undertaking to pass upon the question, the Department is inclined to the view that residence within the Canal Zone is not residence within the United States within the meaning of the naturalization law.

"* * * The continuity of residence within the United States, which is required of petitioners for naturalization, would be broken by residence within the Canal Zone, as there is no court within the Canal Zone having authority to receive a petition for naturalization. Petitioners must appear in person, accompanied by their witnesses, before the clerk of the court in a state or district in which they have resided continuously for one year prior to such appearance, and in person there file a petition in compliance with the law and be identified by the witnesses as the person whose petition they are verifying."

Passenger Traffic on the Panama Railroad.

Three passenger trains are run from Colon to Panama and four from Panama to Colon each week-day, and on Sunday five are run from Colon to Panama and six from Panama to Colon. They carry two classes of passengers in two classes of coaches, the first class being those who pay first class fare and the second class those who pay second class fare. The second class is composed largely of negroes and other Canal laborers. The extent of the travel is shown by the following statement of passengers carried in April:

Total passengers carried	199,800
Average carried per week-day	5,592
Average per train per week-day	936
Average per Sunday	13,600
Average per train per Sunday	1,236
Largest number on one train:	
Week-days	1,033
Sundays	1,944

Two physicians in the Commission employ have been assigned to the engineering forces that are making the survey for the railroad from Panama to David under the direction of the Panama railroad. One of them will be stationed at David and one at Santiago, and they will make visits to the camps in their respective districts.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, May 21, 1910.

Day and Date.	Stations.				
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Lake.)
Height of low water above sea-level, ft.	125	92	46	0	0
Maximum height above mean sea-level, feet.					
Sunday, May 15	137.9	101.0	55.9	18.5	16 5
Monday, May 16	130.7	96.6	50.0	17.2	16.5
Tuesday, May 17	137.8	101.3	57.7	19.4	17.1
Wed'esday, May 18	134.4	99.0	58.1	21.5	18 4
Thursday, May 19	131.0	97.6	53.3	19.9	18.5
Friday, May 20	128.8	95.3	49.0	18.8	18.3
Saturday, May 21	132.1	96.3	48.6	18.1	17.8

A baseball team from the office of the Chief Engineer will play a game with a team from the office of the Chief Quartermaster at Empire Park on May 30, at 9 a. m., to determine the championship of Culebra.

OFFICIAL CIRCULARS.

Acting Subsistence Officer.

CULEBRA, C. Z., May 5, 1910.

CIRCULAR No. 326:

During the absence from the Isthmus of Major E. T. Wilson, Subsistence Officer, Isthmian Canal Commission, all his duties in connection with the Subsistence Department, Isthmian Canal Commission, and the Commissary Department, Panama Railroad Company, will be performed by Lieutenant F. O. Whitlock, Assistant Subsistence Officer, Isthmian Canal Commission.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission,
President, Panama Railroad Company.

New Form of Official Trip Ticket.

CULEBRA, C. Z., May 16, 1910.

HEADS OF DEPARTMENTS AND DIVISIONS:

Commencing Thursday, May 19, 1910, a new form of transportation on the Panama railroad will be issued to Isthmian Canal Commission employes, for use on official business, in place of the present 60-trip ticket. The new form contains 120 single-trip coupons instead of 60, but in other respects is similar to the present ticket.

The 60-trip ticket now in use will be honored by collectors up to and including July 19, 1910, and employes now holding same will continue to use them until that date, unless previously exhausted or expired.

On July 20, 1910, all outstanding 60-trip tickets will be called in and the new 120-trip ticket used exclusively thereafter.

The new ticket will be issued on all properly authorized requests received on and after May 19, 1910, regular request for 60-trip ticket (Form No. 147-I C. E.) being used for this purpose until the present supply is exhausted.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Boilers and Locomotives Unfit for Service.

CULEBRA, C. Z., May 17, 1910.

CIRCULAR No. 327:

To enable the Surveying Officer to determine the best disposition to be made of boilers and locomotives rendered unfit for further service, it is directed that application be made by accountable officers to the Superintendent of the Mechanical Division for a report regarding their condition, copy of which report will be submitted with the survey request.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Memorial Day a Holiday.

CULEBRA, C. Z., May 23, 1910,

CIRCULAR No. 331.

Decoration Day, Monday, May 30, 1910, will be observed as a holiday in the Canal Zone, and, as far as practicable, all public business will be suspended on that day.

H. F. HODGES, *Acting Chairman.*

Estimates for 1911-12.

CULEBRA, C. Z., May 17, 1910.

HEADS OF DEPARTMENTS AND DIVISIONS:

Your attention is invited to the directions of the Appropriations Committee, with reference to the preparation of estimates for the fiscal year 1911-12, which were issued by that Committee at the time of its visit to the Isthmus last November, reading as follows:

"Hereafter there shall be submitted under each item of appropriation proposed in the annual estimates for the construction of the Isthmian Canal notes giving in parallel columns information which will show the number, by grade or classes, of officers, employes, and skilled and unskilled laborers proposed to be paid under each of said appropriations for the ensuing fiscal year and those being paid at the close of the fiscal year next preceding the period when said estimates are prepared and submitted; also, in connection with each item for material and miscellaneous purposes other than salaries or pay for personal services, the amounts actually expended or obligated for like purposes during the entire fiscal year next preceding the preparation and submission of said estimates."

This will require each division and department in submitting its estimates for "Officers and Employes" and "Skilled and Unskilled Labor" to compare in parallel columns the number, designations, rates of pay and total compensation covered by the estimates for 1911-12 with similar information regarding employes at the close of the present fiscal year, *i. e.*, as of June 30, 1910. The comparison that would be proper to make with the organization as of June 30, 1910, will be the approved organization as of that date. Detailed instructions will be shortly issued covering the method of preparing approved organization charts as of June 30, 1910.

What I desire to invite your particular attention to at the present time is the comparison required under each item for material, supplies, equipment, etc., wherein the Committee on Appropriations directs that estimates for 1911-12 be compared with the amounts actually expended or obligated for each different class of material, etc., during the present fiscal year, *i. e.*, payable from this year's appropriations. This will require some research and labor in classifying your expenditures for material, etc., during the present fiscal year and I am issuing this notice in advance so that when the standard blanks are sent out and detailed instructions issued from my office in the near future you will be able to compile the information quickly. The headings under which items of material, supplies, equipment and plant will be classified will, so far as known, follow the classification of the printed blanks which were issued last year, copies of which, if you do not have them, can be obtained upon application to my office.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Acting Chief Sanitary Officer.

CULEBRA, C. Z., May 18, 1910.

CIRCULAR No. 328:

During the absence of Col W. C. Gorgas, Chief Sanitary Officer, on leave of absence beginning May 18, 1910, Lieut.-Col. John L. Phillips is designated Acting Chief Sanitary Officer.

H. F. HODGES,
Acting Chairman and Chief Engineer.

New Meal Tickets.

EMPIRE, C. Z., May 23, 1910.

CIRCULAR No. 23:

In view of the fact that the present supply of meal tickets will become exhausted in the next few months, the old forms as prescribed by Examiner of Accounts' Circular No. 6, dated November 19, 1908, will be discontinued and new forms substituted without department or division designation:

40-cent ticket form x-137.

30-cent ticket form x-139.

Departments and divisions will be charged and must account for such tickets as are issued them by numbers, as heretofore.

W. W. WARWICK,
Examiner of Accounts.

Approved: H. F. HODGES,
Acting Chairman and Chief Engineer.

District Dentist at Gorgona.

ANCON, C. Z., May 17, 1910.

CIRCULAR:

The public is advised that Dr. J. E. Grant, District Dentist at Gorgona, has returned from leave of absence, and is ready to continue his work.

JOHN L. PHILLIPS,
Assistant Chief Sanitary Officer.

Rainfall, May 1 to 21, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

Stations.	Maximum in one day.	Date.	Total for period
Pacific Section—	*Ins.*		*Ins.*
Ancon	2.47	15	8.42
Balboa	2.08	15	7.07
Miraflores	1.51	15	5.93
Pedro Miguel	2.14	12	9.03
Rio Grande	2.70	17	9.17
Central Section—			
Culebra	3.01	7	8.84
Camacho	2.56	7	8.71
Empire	3.35	7	9.49
Gambca	3.40	7	8.71
Alhajuela	2 24	17	5.28
El Vigia	1 25	7	4.70
San Pablo	1 22	17	5.19
Tabernilla	1 05	7	5.24
Bohio	3.08	17	11.20
Gorgona	1.37	17	5.31
Monte Lirio	1.70	7	8.18
Atlantic Section—			
Gatun	1.92	7	8.36
Brazos Brook	1.33	7	6.86
Cristobal	1.56	7	6.68
Porto Bello (to 5 p. m. of 20th)	1 32	13	7.08

Band Concerts.

The Isthmian Canal Commission Band will give a concert at Empire, C. Z., on Sunday, May 29, 1910, at 6 p. m.

A concert will be given at Bas Obispo, C. Z., on Sunday, June 5, at 6 p. m.

CANAL WORK IN APRIL.

Monthly Report of the Acting Chairman to the Secretary of War.

CULEBRA, C. Z., May 16, 1910.

The Honorable the Secretary of War,
Washington, D. C.

Sir—I have the honor to submit the following report of operations on the Isthmus for the month of April, 1910:

Department of Construction and Engineering.

The following table summarizes the principal items of construction work accomplished by the Atlantic, Central and Pacific Divisions during the month:

Item.	Unit.	Atlantic.	Central.	Pacific.	Total.
Work excavation, dry	Cubic yards	103,243	1,717,622	55,586	1,876,451
Work excavation, wet	Cubic yards	190,574	....	534,322	724,896
Total work excavation	Cubic yards	293,817	1,717,622	589,908	2,601,347
Plant excavation, dry	Cubic yards	....	5,717	2,110	7,827
Plant excavation, wet	Cubic yards	20,669	....	2,625	23,294
Total plant excavation	Cubic yards	20,669	5,717	4,735	31,121
Total Canal excavation	Cubic yards	314,486	1,723,339	594,643	2,632,468
Material placed in dams	Cubic yards	505,877	....	31,394	537,271
Concrete placed	Cubic yards	71,585	....	24,535	96,120
Explosives used	Tons (Gross)	88.26	369.30	35.63	493.19
Rock drilling	Feet	97,815	398,999	56,016	552,830
Track removed	Miles	....	18.39	....	18.39
New track laid	Miles	4.13	25.28	3.15	32.56
Rock crushed	Cubic yards	71,968	861	39,204	112,033
Cement used	Barrels	74,341	61	25,665	100,067
New roads built	Miles	1.32	1.16	....	2.48
Water mains laid	Feet	....	44	3,695	3,739
Sewers laid	Feet	1,090	496	1,493	3,079
New drains and ditches dug	Feet	....	1,005	9,135	10,140
Average daily force	....	8,024	8,835	4,536	21,395
Rainfall, average	Inches	4.62	5.77	4.60	5.08

Atlantic Division.

GATUN LOCKS.

Excavation.—Shovel excavation during the month was carried on in the middle and lower chambers. The shovel excavation for the middle lock was 98 per cent completed, and the excavation for the entire locks proper, exclusive of the excavation for the approach walls, was 89 per cent completed. The channeling in the east chamber of the middle lock was 95 per cent completed, and the work was well advanced in the west chamber. During the month 23,056 square feet were channeled. The trench excavation in the middle lock was commenced.

Receiving and Issuing Material—The receipts of material during the month were satisfactory, the receipts in all cases exceeding the consumption.

Mixing and Placing Plants—These plants were kept in satisfactory operation for the month, although Plant No. 2 was run at half capacity for two weeks on account of the necessity for relining the mixers.

Concrete Work—The concrete work for April showed a slight increase over that for March. The place measurement agreed closely with the bucket measurement, the excess of place measurement over bucket measurement being 16 yards. The amount of large stone placed was small, due partially to the breaking down of locomotive cranes, and partially to lack of material. The concrete work in the upper lock proper was 39 per cent completed, and for the entire work, the concrete, exclusive of the approach walls, was 16.7 per cent completed.

Power Plant—The power plant was operated satisfactorily during the month.

Iron and Steel Work—The sills for the upper operating gates were completed, and the setting of the steel work for the sill of the intermediate gates of the upper lock was 60 per cent completed.

GATUN DAM.

Construction during the month increased the total fill by 505,877 cubic yards, making the total amount in place 7,375,072 cubic yards.

Hydraulic Fill—The dredges increased the hydraulic fill by 242,440 cubic yards, which made the total hydraulic fill in place at the close of the month 3,019,773 cubic yards.

Enrockments—The material received from the Central Division, the locks and the spillway, amounting to 263,437 cubic yards, was placed on the north and south toes of the dam, making the total dry fill in place 4,345,299 cubic yards.

GATUN SPILLWAY.

Preparations for turning the Chagres River through the Spillway were continued under the greatest possible pressure, and by April 23 the work was sufficiently advanced to render this change advisable. Filling the two trestles on the south toe of the dam was then begun, and complete closure was effected on April 24, since which date the outflow has been through the Spillway. Preparations were at once begun to continue the construction of the concrete walls at the head of the Spillway.

Excavation—The material excavated amounted to 11,260 cubic yards, making the total at the close of the month 1,425,747 cubic yards.

Concrete—The amount of concrete laid was 8,358 cubic yards, making the total at the close of the month 78,339 cubic yards.

Spillway Bridge—The construction of a steel bridge on concrete piers at elevation plus 45, crossing the lower end of the Spillway, was continued. The central truss was erected ready for field riveting, and the false work removed. Two of the girder spans were completed, and preparations made for placing same as soon as received.

Cut-off Levee—Work was continued constructing the levee from Spillway Hill to Mindi Hill, and during the month 21,233 cubic yards of material from the locks were placed, making the total at the end of the month 77,273 cubic yards.

HARBOR AND CHANNEL SECTION.

Dry Excavation Below Sea Level, Mindi—There was no dry excavation at Mindi, but 4,734 cubic yards of rock, and 4,700 cubic yards of sand were unloaded at that point during the month.

Dredging, Ocean to Mindi—Three dredges removed from the Canal prism 148,970 cubic yards of earth, and 41,604 cubic yards of rock. In addition, the dredge *Mindi* removed 14,942 cubic yards of earth, and 5,727 cubic yards of coral from Shelter Cove. On April 30th, 40 feet of water could be carried from zero to mile 2 plus 1,000 feet; 30 feet to mile 4 plus 1,200 feet; 20 feet to mile 5 plus 1,630 feet, the end of the cut.

PORTO BELLO.

At this point two eight-hour shifts were continued during the month. The maximum day's output was 3,595 cubic yards, and the total for the month, 71,968 cubic yards of crushed rock. The average hourly output for 411 hours and 30 minutes was 175 cubic yards.

Sand, Stone and Cement Service—In connection with this service, plant steamed about 11,235 miles, handled 787 barges, and carried about 2,790 passengers.

COLON BREAKWATERS.

At the quarry 35 acres were completely cleared, and 6 acres partially cleared; 6 acres were cleared for tracks, and 10 acres for reservoir. At Shelter Cove 20,669 cubic yards of material were dredged.

NOMBRE DE DIOS.

During the month 56 1-5 barge loads, containing 33,069 cubic yards of sand, were shipped to Cristobal and Gatun.

MUNICIPAL ENGINEERING.

The usual work of maintenance of roads, waterworks and sewers, pumping stations, etc., was satisfactorily performed. The municipal engineering subdivision continued the construction of the Agua Clara reservoir. The work on the spillway was completed with the exception of placing of riprap in the channel below the concrete apron, and all work on the dam was completed with the exception of placing a small amount of earth on the down stream side of the dam. The installation of the machinery in the pump station was completed.

Central Division.

During the month of April the total amount of material excavated in the Central Division was 1,723,339 cubic yards, of which 556,787 cubic yards were classified as earth, and 1,166,552 cubic yards as rock. Of this quantity 1,685,030 cubic yards were removed by steam shovels, 10,756 cubic yards by hand and scraper, 4,700 cubic yards by orange peel bucket and crane, and 22,853 cubic yards by contract; 1,703,796 cubic yards were primary excavation for the Canal prism, 8,050 cubic yards were excavation of silt deposited in the completed section by floods, 5,776 cubic yards were in the Obispo River Diversion, and 5,717 were for inclines for tracks not useful to the completed Canal.

The daily average number of steam shovels at work during the month was 50.04, and the total number of shovel days was 1,301, as compared with 53.92 shovels at work during the month of March, with 1,402 shovel days.

For comparison with the work done by

steam shovels during the corresponding month of the previous year, the following table has been prepared.

Period.	Excavated by shovels.	Classification of material.		Av. No. of shovels at work.	W'kg days.	Av. yards per shovel day.
		Rock.	Earth.			
	Cu. Yds.	Cu. Yds.	Cu. Yds.			C. Y.
1909: Apr....	1,777,856	709,353	1,068,503	55.40	25	1,283.7
1910: Apr....	1,685,030	1,161,391	523,639	50.04	26	1,295.2

Rainfall at Empire: 1909, 3.33 ins.; 1910, 4.24 ins.

The above table shows the average output per shovel day to be ninth-tenths of 1 per cent greater in April, 1910, than in the corresponding month of the previous year.

The total amount of material excavated from the prism in the Culebra Section of the Central Division in April, 1910, was 1,288,845 cubic yards, the highest record in that section for the month of April, the highest previous record for that month having been in April, 1909, when 1,199,945 cubic yards were removed.

The total amount of material to be excavated in order to complete the Canal in the Central Division when the United States assumed control was 89,794,493 cubic yards. Up to May 1, 1910, 55,997,760 cubic yards had been removed, leaving 33,796,733 cubic yards to be removed in order to complete all excavation in the Central Division. From these figures it will be seen that 62.36 per cent of all excavation in the Central Division had been completed up to the close of the month of April, and 37.64 remained unfinished.

Considering the two sections which compose the Central Division, the excavation completed and that to be completed at the close of April operations were as follows:

CULEBRA SECTION.

	Cubic Yards.
Completed	46,913,450
To be completed	31,128,845

CHAGRES SECTION.

Completed	9,084,310
To be completed	2,667,888

From the above figures it will be seen that the Culebra section, locally known as the "Culebra Cut," was 60.11 per cent completed, with 39.89 per cent to be completed; the Chagres section was 77.30 per cent completed, with 22.70 per cent to be completed.

During the month the following quantities of material were hauled from the Canal prism and dumped in the embankment for the new roadbed for the relocation of the Panama railroad: 169,731 cubic yards between Caimito and Gamboa; 2,802 cubic yards in the vicinity of Pedro Miguel. The total at the close of the month used for this purpose was 3,473,376 cubic yards. During the month 83,778 cubic yards of earth and 43,801 cubic yards of rock from the Culebra Cut were transported to Gatun for use in the construction of the dam, making the total at the close of the month for this purpose 404,104 cubic yards of earth and 873,486 cubic yards of rock; 1,550 cubic yards of rock and earth were transported to Matachin and Bridge 55½ for the Panama Railroad Company.

The output of the Empire portable rock crusher for the month was 427 cubic yards, and that of the Gorgona portable rock crusher 434 cubic yards. The rock crusher at Bas Obispo was not operated during the month; gravel secured from bars which formed during the floods of the Chagres River at Santa Cruz and Matachin being used for track ballast instead of crushed rock. There were 8,050 cubic yards of gravel secured from flood deposits at Matachin, of which 1,193 cubic yards were stored for future concrete work, making the amount stored for this purpose 31,374 cubic yards.

The daily average number of laborers at work on the whole division during the month was 7,909, the average number of gold men being 926.

Pacific Division.

DISTRICT NO. 1—LOCKS AND DAMS.

The total excavation during the month amounted to 57,490 cubic yards. At Pedro Miguel 31,394 cubic yards of dry filling were added to the prism of the west dam, making the total at the close of the month 235,930 cubic yards. At Miraflores no dry filling was added to the toe, and no hydraulic filling to the core of the west dam, leaving the totals as previously stated in the report for March, 507,065 cubic yards and 138,587 cubic yards, respectively. During the month 12,000 cubic yards of dry filling were placed in backfill, increasing the total to 97,420 cubic yards.

Handling Plant—Chamber crane No. 2 at Pedro Miguel Locks was 90 per cent completed structurally. The west unit of the handling plant was placed in operation during the month, and in the main gave entire satisfaction. The only stoppages of this unit were due to minor electrical troubles, which are being corrected as they appear.

DISTRICT NO. 2—DREDGING.

The following table gives the output of the five dredges which were in operation during the month:

Dredge.	Type.	Work.		Plant.		Total.	Remarks.
		Earth.	Rock.	Earth.	Rock.		
		Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	
Badger	Ladder	91,055	....	2,125	500	93,680	Place measurement
Marmot	Ladder	98,972	....	....	....	98,972	Place measurement
Mole	Ladder	37,060	5,600	....	....	42,660	Place measurement
Cardenas	Dipper	36,856	3,429	....	....	40,285	Place measurement
Culebra	Suction	261,350	....	....	....	261,350	Scow measurement
Total	....	525,293	9,029	2,125	500	536,947	

Chamé Sand Excavation—The ladder dredge *Gopher* was employed during the entire month on sand excavation at Point Chamé, and removed approximately 33,200 cubic yards of sand.

Clearing Canal Line—The work of clearing and burning brush and blasting stumps from the Canal prism at various places between Balboa and Corozal was continued, 284,500 square feet being cleared during the month.

Balboa—At Balboa the work of filling behind the docks was continued, as was also the alterations in the sand cranes. The foundations at the pumping station for the hydraulic excavation plant were completed, and the erection of the pumps and boilers was commenced.

DISTRICT NO. 3—MUNICIPAL WORK.

The maintenance and operation of the various municipal plants was continued satisfactorily.

Cocoli Pumping and Filtration Plant—Work on the Cocoli pumping and filtration plant was continued, and the entire plant was practically completed.

Rio Grande Reservoir—The venturi meter at the Rio Grande reservoir registered an output of 104,875,000 gallons of water during the month, or a daily average of 3,495,833 gallons. The elevation of the water in the reservoir on April 30, 1910, was 226.26.

Panama Improvements—During the month the work on the new improvements in the city of Panama progressed satisfactorily.

Repairs to Roads in Ancon Hospital Grounds—During the month 6,570 linear feet of roads were repaired, and work was started on the construction of concrete sidewalks and gutters in the hospital grounds.

Naos Island Reservoir—Work was commenced on the new 100,000 gallon concrete reservoir on Naos Island, and the material for its construction was collected, shipped and unloaded on the Naos Island beach.

DISTRICT NO. 4—ANCON QUARRY.

At Ancon quarry 39,204 cubic yards of crushed stone were produced. The plant was operated at less than its capacity, due to the fact that the large motors for operating the No. 6 crushers had not arrived. The force employed for stripping was materially reduced.

Relocation of Panama Railroad.

During the month 225,624 cubic yards of material were excavated, making the total excavation at the close of the month 3,421,640 cubic yards, and 325,229 cubic yards of material were placed in embankment, making the total at the close of the month 8,152,371 cubic yards.

During the month 1,658 linear feet of trestle were driven, and the work of constructing bridges and culverts was continued. A total of 5,009 linear feet of permanent track was laid, making the total at the close of the month 169,925 linear feet.

The total force averaged 3,029 men during the month.

Quartermaster's Department.

The force report for April 27 shows that the force actually at work for the Commission on that date was 29,211, a decrease of 1,626 men from the force at work on March 30. The report shows a decrease of 58 European laborers rated at 20 cents per hour, and an increase of 43 rated at 16 cents an hour. Practically all of the decrease in the force was among the West Indians. There was no importation of laborers by the Commission during the month, but there was the usual independent immigration, both from Europe and the West Indies.

On May 1, 1910, there were 72 applications on the No. 1 list of applicants for family quarters, and 520 applications on the No. 2 list. On May 1, 1909, there were 85 applications on the No. 1 list, and only 249 on the No. 2 list. The No. 1 list has remained practically stationary for a year past, while there has been a constant increase in the No. 2 list. Notwithstanding the large total of applications on file, Gatun is the only place where there is any considerable number of applications on the No. 1 list.

The estimated cost of material purchased from July 1, 1909, to May 1, 1910, is $11,974,-

557.78, chargeable to appropriations as follows:

Construction and engineering	$11,873,926.27
Zone sanitation	87,258.13
Civil Administration	13,373.38

In addition to the foregoing, there has been ordered on annual contracts material estimated to cost $1,239,871.17.

Subsistence Department.

The operation of the European laborers' messes, the colored laborers' kitchens and the line hotels showed a net profit of $4,492.16; the operation of the Hotel Tivoli showed a net profit of $2,278.77, and there was a net profit on restaurants and penitentiary of $312.67. The net profit on subsistence operations was $7,083.60.

Department of Civil Administration.

COURTS.

Three civil cases were disposed of in the Supreme Court of the Canal Zone; 14 civil and 36 criminal cases in the Circuit Courts, and 68 civil and 604 criminal cases in the District Courts of the Zone.

DIVISION OF POSTS, CUSTOMS AND REVENUES.

Money order sales amounted to $456,367.38, and the fees to $2,011.45. Receipts from stamp and card sales and newspaper postage aggregated $7,446.83. The total collections of the Division were $21,555.97, and on account of court fines, costs and fees $3,449.55. The net revenues of the Zone were $22,026.52.

During the month 18 vessels entered at and 19 vessels cleared from the port of Ancon, and 24 vessels entered at and 24 cleared from the the port of Cristobal.

DIVISION OF POLICE AND PRISONS.

The number of arrests during the month was 614, a decrease of 48 as compared with March.

Six convicts were committed to the penitentiary, and 12 were discharged, and on April 30, 121 convicts were confined in the penitentiary. The cost of guarding and subsisting the convicts was $2,972.90, and the value of work performed by them was $1,896.05. The services of the convicts were utilized in the construction of the Empire-Paraiso road, and in breaking stone at West Culebra.

DIVISION OF FIRE PROTECTION.

During the month four fires were reported in the Canal Zone, two false alarms were responded to, two fires were reported from Porto Bello, and one fire from Nombre de Dios. The estimated value of property involved in the Canal Zone and Porto Bello was $92,000, and the damage was $5 to Government property. The loss from fire at Nombre de Dios is reported at $2,555, all in private property.

DIVISION OF PUBLIC WORKS.

In the City of Panama the average daily consumption of water during the month was 1,052,733 gallons, and in Colon 764,039 gallons.

The usual inspection and maintenance work of this division was performed during the month.

DIVISION OF SCHOOLS.

The total enrollment in the white schools was 829, and the average daily attendance 716.7, or 86 per cent of the enrollment, and in the colored schools the total enrollment was 1,058, and the average daily attendance 531, or 50 per cent of the enrollment.

Department of Sanitation.

The annual death rate per thousand from all causes for Commission employes for April was 13.04, as compared with 8.91 for March, 1910, and 8.57 for April, 1909, the number of deaths from disease being 39 and from external causes 20. The total number of deaths from disease among the white employes was five, as follows: One each from amoebic abscess of liver, malarial fever, pellagra, septicemia and pulmonary tuberculosis. Among the colored employes the largest number of deaths from any one disease was from pulmonary tuberculosis, there having been eight deaths from this cause. There was but one death among employes from malaria during the month. Of the deaths among employes from external causes 19 were from traumatism of various kinds, and one from accidental drowning.

In the opinion of the Chief Sanitary Officer, the high death rate for April is not other than incidental, and compared with populations of similar size in the United States is not as high as the average.

The annual average sick rate for malaria in hospitals per thousand among employes for the month of April was, white 220, black 56, both 97, as against white 253, black 83, both 125 for the month of March.

No cases of smallpox, plague or yellow fever originated on or were brought to the Isthmus during the month.

Respectfully,

H. F. HODGES, *Acting Chairman.*

Reception to Mr. and Mrs. Thatcher.

The Tivoli Club will hold a reception and dance in honor of Mr. Maurice H. Thatcher, Commissioner and head of the Department of Civil Administration, and Mrs. Thatcher at the Hotel Tivoli on Friday evening, May 27. A special train will leave Panama at 11 o'clock p. m. for the benefit of those who desire to return to their homes on the Line after the dance. The reception is in place of the monthly dance.

In Honor of King Edward.

A memorial service for King Edward was held at St. Paul's Church in Panama on Friday afternoon, May 20, at 3 o'clock. Members of the diplomatic and consular corps and officials of the Isthmian Canal Commission were present. The church was decorated with flags and mourning streamers. The service was conducted by the Ven. Archdeacon H. B. Bryan, and the music was rendered by an augmented choir. A memorial address was delivered by Hon. C. C. Mallet, the British Minister. Before the hour set for the service the Panama Republican Band, stationed outside the church, played funeral marches.

A service was held at the Wesleyan church, Panama, in the evening, the address being delivered by Mr. Mallet.

American flags on the Isthmus were displayed at half-mast in compliance with the subjoined official order:

CULEBRA, C. Z., May 19, 1910.

CIRCULAR NO. 330.

Out of respect to the memory of the late King Edward VII of England all flags on buildings and vessels of the Isthmian Canal Commission and Panama Railroad Company will be half-masted on Friday, May 20, 1910, the day of his funeral.

H. F. HODGES,
Acting Chairman, Isthmian Canal Commission,
Second Vice-President, Panama Railroad Company.

The Gorgona Dramatic Club is rehearsing a rural play to be given in the clubhouse as soon as it is ready for production. The rehearsals are held on Friday evenings in the entertainment hall of the clubhouse. The membership is 15.

SOCIAL LIFE OF THE ZONE.

Women's Clubs.

Because of the rainy season, and the number of Canal Zone residents on leave at this time, the general tendency is to close the Women's Clubs for a period of three months. The Pedro Miguel Club has combined its meetings, holding two in the month instead of weekly; the business meeting precedes the social meeting. The next meeting will be held at the home of the president on June 3. The Empire Club will meet on Thursday, May 26, when the matter of closing until September will be decided. The present officers will hold over the summer recess. The Gatun Club will continue to hold its meetings weekly through June, after which there will be a social meeting once in the month, the date to be fixed later. Regular meetings will be resumed in October. The Gorgona Club has under preparation plans for a concert and entertainment which will be held in the clubhouse in June. A special meeting was held on Tuesday, May 24, to complete the arrangements.

Church Work.

The Rev. A. A. Nellis is preaching a series of sermons at the Ancon Protestant Chapel on Sunday afternoon at 4 o'clock, the general topic being Sin and Salvation. These services are undenominational, and the public is invited to attend.

The Roman Catholics of Balboa will give a dance for the benefit of their church, now being constructed on Sosa Hill, in Old Balboa mess hall, Saturday evening, June 4. A special train free to holders of tickets will leave Paraiso via Panama to Balboa.

Memorial Day—Mount Hope Cemetery.

A general invitation is extended to all interested in Memorial Day services, to join in decorating the graves of American soldiers, sailors, and citizens buried in Mount Hope Cemetery, on Monday, May 30, 1910. The Marine Band will furnish music, and a company of Marines will assist in the ceremonies. Members of the Independent Order of Odd Fellows, Knights of Pythias, Regular Army and Navy Union, Kangaroos, and other secret organizations are requested to appear in regalia if possible.

MEMORIAL COMMITTEE.

Wm. H. Kromer, Deputy Great Incohonee of the Improved Order of Red Men, for the Canal Zone, has extended a cordial invitation to all members of the order Knights of Pythias in the Canal Zone to join them in their Memorial services to be held in Mount Hope cemetery, on Decoration Day, May 30, 1910.

I have the pleasure of extending this invitation to our members.

A. M. WARNER,
District Deputy Supreme Chancellor.
Las Cascadas, C. Z., May 23, 1910.

Members of the Improved Order of Red Men and Degree of Pocahontas are requested to attend the annual Memorial services to be held at Mount Hope Cemetery, Monday, May 30, at 10 a. m., in memory of departed brothers who are buried there. As members of a patriotic order, it also becomes our duty to assist in decorating the graves of American soldiers and sailors, and arrangements are being made accordingly. The Marine band and a company of Marines from

Camp Elliott have kindly volunteered to assist in the services on that day, and members of the Regular Army and Navy Union, Odd Fellows, Knights of Pythias, Kangaroos, and other American orders are invited to attend. Unless otherwise notified, please assemble at Cristobal lodge hall immediately after the arrival of the first train from Panama, where the details of the program will be made known. In case of heavy rains at the appointed time, the regular memorial services will be held in the Cristobal lodge hall, and the graves will be decorated later.

W. H. KROMER,
Deputy Great Incohonee.

Postal and Revenue Business in April.

The post-offices issued 18,246 money orders in April, valued at $456,369.07, of which $348,882.94 was payable in the United States. The average value of an order was $25.01. The sales of postage stamps amounted to $7,442.50, of which all but $4,465.50 was paid to Panama. Newspaper postage amounted to $4.33; and the fees paid for money orders to $2,011.45; the total postal revenue thus being $6,481.28.

Collections from other sources of internal revenue were as follows:

Distillation licenses, $241.26; insurance company fees, $50; taxes, licenses, etc., $11,854.43; miscellaneous collections, $1.

Red Cross Finances.

The financial statement for April of the Canal Zone Red Cross follows:

RECEIPTS.

April 1—Balance on hand	$2,320.39
April 1 to 30—Dues for membership received	140.00
Total receipts	$2,460.39

DISBURSEMENTS.

April 11—Relief of family of ex-employe who is sick in Santo Tomas Hospital, receipt "A"	$5.00
April 26—Postage as per receipt attached, receipt "B"	2.00
April 29—Cash furnished widow of ex-employe, who is being sent to Nicaragua, receipt "C"	100.00
Total disbursements	$107.00
April 30—balance on hand	$2,353.39

JOHN L. PHILLIPS, *Treasurer.*

Disbursements approved May 6, 1910.

C. A. DEVOL, *Chairman.*

Applications for Family Quarters.

Applications for married quarters were on file on May 1, as follows:

	No. 1 List.	No. 2 List.
Ancon	6 (1)	21
Ancon Hospital	2	2
Balboa	....	45
Bas Obispo	....	8
Corozal	....	27
Cristobal	2	150 (1)
Culebra	....	....
Empire	....	....
Gatun	52 (21)	115 (46)
Gorgona	....	75 (21)
Las Cascadas	7	11 (3)
Miraflores	1	1
Paraiso	2	33 (14)
Pedro Miguel	....	7
Porto Bello	....	25
Tabernilla	....	....
Total	72 (22)	520 (85)
April 1	77	469
March 1	84	454

The figures in parentheses show the number of applicants already occupying regular or nonhousekeeping family quarters at stations, other than those at which applications are filed.

The business meetings of the Panama Division No. 405, Grand International Auxiliary to the Brotherhood of Locomotive Engineers will hereafter be held in the Lodge Hall at Las Cascadas, instead of alternately at Pedro Miguel as formerly.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

EMPIRE.

The gymnasium classes opened with a good attendance last Monday evening. A course of systematic exercise comprising calisthenics, apparatus work, recreative games, tumbling, etc., will be followed.

The Cristobal basketball team defeated the Empire team on the Empire floor last Saturday evening.

The handball court will be ready for use in a few days, and a local tournament will then be organized.

Plans are under way to organize a chess and checker club in the near future.

The public debate has been postponed until Friday, May 27.

The new "Victrola" has arrived and is proving a great attraction. A number of the latest Victor records have been purchased.

GORGONA.

The moving picture show given last Friday evening was a success. The films were new and had been brought direct from the States.

The Camp Elliott bowlers lost three straight games to the Gorgona team last Saturday night.

The monthly song service will be held next Sunday night, May 29 at 8 o'clock. There will be special music, and an address by Mr. F. A Putnam of Culebra.

Mr. George Cook has returned and will take up his duties as teacher of the Bible Club, studying "Men of Steel," which meets every Tuesday at 7.30 p. m. Membership in the Y. M. C. A is not necessary to attend this class nor the class in "Social Teachings of Jesus," taught by Judge March, which meets at the same hour.

Preparations are under way for a good representative team to take part in the Fourth of July Athletic Meet at Ancon. Men have begun training and the squad will begin work this week. Candidates wishing to try for the team will kindly hand in their names at the desk.

The high bowling score for the week 244 was rolled by F. J. King.

GATUN.

An unusually large audience listened to an address by Commissioner Maurice H. Thatcher, on "Character Building" at the Y. M. C. A. last Sunday evening. Lieut.-Col. William L. Sibert presided and introduced the speaker. Mrs. G. M. Hoffman sang, accompanied by Miss Chinn.

The pool tournament started last week with the following entries: Class A—Dalton, N. M. Gamble, Hughes, Bailey, Grimisor. Class B—Porter, Kenney, Smith, Jones, Chenault. Class A plays 100 balls; class B, 75. Mr. DePoorter referees all games. Winner of class A will play the winner of class B. Prizes are: First, gold medal; second, silver medal.

Results of the bowling match games of the local tournament, week ending May 21, are as follows. Team No 1, 782, 706, 691. Team No. 2, 718, 804, 788: Team No. 3, 737, 730, 788. Team No. 4, 685, 724, 773.

Standing of the teams are as follows:

	Won.	*Lost.*	*Percent.*
Team No. 2	2	2	.500
Team No. 1	3	3	.500
Team No. 3	3	3	.500
Team No. 4	3	3	.500

Empire took two out of three bowling games from the Gatun team last Friday night. Score as follows: Empire—855, 812, 820.; Gatun—853, 788, 862.

The debating club held a meeting last Friday night and discussed "Canal Zone Fortifications." The object of the club is to teach parliamentary law, to conduct debates, discuss current events, and to assist its members in learning the art of public speaking. Any member is cordially invited to join.

Camp Elliott bowlers were defeated at Gatun last Monday night.

The general appearance of the clubhouse has been improved by several new pictures and pennants.

All members interested in forming an orchestra are asked to speak to the secretary.

CRISTOBAL.

The following is the standing of the bowling teams for the week ending May 21:

	Played.	*Won.*	*Lost.*	*Fercent.*
Quartermasters	12	8	4	.667
Commiss'y-Subsistence	12	7	5	.583
Dry Dock	12	5	7	.417
Miscellaneous	12	4	8	.333

The schedule for the present week is the Commissary Subsistence vs. Miscellaneous, Monday; Quartermasters vs. Dry Dock, Tuesday; Commissary vs. Quartermasters, Thursday; Dry Dock vs, Miscellaneous, Friday.

Saturday afternoon, the Gatun boys played the local boys a game of indoor baseball and basketball. The score of the baseball was 13 to 12 in favor of Cristobal. The basketball game was 6 to 6 at the end of the first half. The final score 18 to 11 was in favor of the local boys.

The Sunday afternoon Men's Meeting was addressed by Mr. A. T. Goddard. Subject "The Bible and Common Sense."

On Wednesday the Cristobal Y. M. C. A. Minstrels will go to Panama and give their "1915 or Bust" program to assist the Red Cross in their entertainment for the benefit of the Cartago earthquake sufferers.

On the evening of Decoration Day a smoker will be given for members.

During the week regular gymnastic work will be started, also track and field work under the direction of Physical Director, Wm. E. Burrell, as coach.

Camp Elliott Y. M. C. A.

Plans are being completed for an athletic meet to be held in Camp on May 30. Many of the men are training daily.

Owing to the remodeling of the gymnasium, the dramatic club postponed the entertainment which was advertised for last Friday evening. It will be presented at the reopening of the new building.

At vesper service last Sunday evening the new quartet made its first appearance.

BASEBALL.

ATLANTIC LEAGUE.

RESULT OF GAME, MAY 22.

Com.-Subsistence, 4; Civil Administration, 3. Ten innings.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*		*F.*	*W.*	*L.*	*Pc.*
Com-Sub	14	11	3	.786	Colon	13	5	8	.384
P. R. R.	11	5	6	.454	Civ. Adm.	14	5	9	.357

SCHEDULE FOR MAY 29.

Panama Railroad vs. Colon.

SCHEDULE FOR MAY 30.

Com.-Subsistence vs. Civil Administration.
Panama Railroad vs. Colon.

C. A.	AB.	H.	PO.	A.	E	C.-S.	AB.	H.	PO.	A.	E
Morrell, 2b	5	0	4	3	0	Sullivan, 3b	4	0	2	2	1
Ferrar, cf	3	0	1	0	1	Lindberg, lf.	4	1	1	0	0
Edwards, 1b.	4	1	14	0	1	Curtis, ss	4	1	0	0	1
Fechtig lf.	4	0	1	1	0	Muggleton, 2b	4	0	0	4	0
Fleishman, 3b.	4	0	0	7	0	McCusty, c.	3	1	15	1	1
Blaine, rf.	4	0	1	0	0	McGinniss, cf.	4	2	1	0	0
Russell, p.	4	0	0	3	0	Payne, 1b.	4	1	11	0	0
Roos, c.	4	1	3	1	0	Reese, rf.	4	2	0	0	0
McKeever, ss.	4	1	3	3	1	Harrigan, p.	3	1	0	5	0
Totals	35	3	27*	18	3	Totals	34	9	30	12	3

*None out when winning run was scored.

Civil Administration.	0	0	0	0	0	0	0	2	0	1—3
Com.-Subsistence.	0	0	1	1	0	0	0	0	0	2—4

Runs—C. A.: Russell, Roos (2); C.-S.: Curtis, McGinniss, Payne, Reese. Runs earned—C.-S., 2. First base on errors—C.-S., 3; C. A., 3. Wild pitch—Harrigan Passed ball—McCusty. Sacrifice hit—McCusty. Stolen bases—Roos, McKeever, Curtis, Reese. Bases on balls—Off Harrigan, 1. Struck out—By Harrigan, 13; by Russell, 3. Left on bases—C. A., 4; C.-S., 4. Double plays—McKeever to Morrell to Edwards (2): Russell to Roos to Morrell. Umpire—Durand. Time of game—1.40. Scorer—Rennard.

ISTHMIAN LEAGUE.

The games scheduled for Sunday, May 22, were postponed on account of rain.

STANDING OF CLUBS.

	F.	*W.*	*L.*	*Pc.*		*F.*	*W.*	*L.*	*Pc.*
Empire	23	18	5	.782	Ancon	23	8	15	.348
Gorgona	25	18	7	.721	Marines	27	5	22	.185

SCHEDULE FOR MAY 29.

Ancon at Empire.
Marines at Gorgona.

SCHEDULE FOR MAY 30.

Gorgona at Ancon.
Marines at Empire.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending June 1, 1910, (75th meridian time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	P. M.	P. M.	P. M.
May 26	5.05	11.06	5.10	11 38	....
May 27	5.40	11.52	5.46	....	....
			A. M.		
May 28	....	12.16	6.18	12.32	6.25
May 29	....	12.57	6.58	1.17	7.08
May 30	....	1.44	7.45	2.07	7.57
May 31	....	2.32	8.38	3.04	8.56
June 1	....	3.29	9.38	4 07	10.02

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning May 24.

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (5 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (5 to 8 pounds)	per lb	24
Chops	per lb	26
Cutlets	per lb	26
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	2
Soup	per lb	5
Stew	per lb	9
Corned	per lb., 12, 14,	16
Chuck roast	per lb	13
Pot roast	per lb	15
Rib-roast, second cut (not under 3½ pounds)	per lb	18
Rib-roast, first cut (not under 3 pounds)	per lb	20
Sirloin roast	per lb	21
Rump roast	per lb	21
Porterhouse roast	per lb	21
Steak, Chuck	per lb	14
Round	per lb	15
Rib	per lb	20
Sirloin	per lb	21
Porterhouse	per lb	21
Rump	per lb	21
Tenderloin	per lb	24

MISCELLANEOUS.

Livers—Beef	per lb	8
Calf	each	60
Half	each	30
Sausage—Pork	per lb	17
Bologna	per lb	14
Frankfurter	per lb	14
Leberwurst	per lb	14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	25
Eggs, fresh	dozen	28
Oysters, in 1-quart kegs	keg	55
Shads	each	75
Shad Roes	pair	40

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, large	each	1.50
medium	each	1.30
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese	each	2.50
Pheasants	each 70,	1.00
Partridges	each	50
Grouse	each	85

CURED AND PICKLED MEATS.

Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Sugar cured	per lb	†21
Sugar-cured. sliced	per lb	†25
Half, for boiling	per lb	†22
Boiled	per lb	28
Hocks	per lb	‡8
Bacon—Breakfast, whole piece	per lb	28
Breakfast, sliced	per lb	29
Beef, salt, family	per lb	†12
Pork, salt, family	per lb	18
Ox tongues	each	80
Pigs' feet	per lb	10
tongues	per lb	16
Mutton, mess	per lb	7

DAIRY PRODUCTS.

Butter—Creamery special	per lb	40
Cheese—Roquefort	per lb	38
Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	26
Edam	each	1.00
Neufchatel	each	6
Gouda	per lb	34
Milk, Briarcliff	bottle	**25

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	8
Lettuce	per hd 8, 12,	16
Cucumbers	per lb	12
Potatoes, white, old	per lb	†3
white, new	per lb	4
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	5
Tomatoes	per lb	8
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	3
Cabbage, new	per lb	4½
Rhubarb	per lb	7
Spinach	per lb	5
Lemons	dozen	24
Apples	per lb	5
Tangerines	each	2
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4
Pineapples	each	18

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Supplies for Canal Work.

The following steamers, with supplies for the Isthmian Canal Commission, arrived at the ports of Cristobal and Colon, during the week ending May 21, 1910:

Ancon, May 17, from New York, with 39,600 barrels cement for Atlantic Division; 72,000 bags cement for Pacific Division, and 200 car couplers for Mechanical Division (for stock).

Prinz August Wilhelm, May 17, from New York, with 7 cases valves, ells, etc., and 20,000 gallons kerosene oil for stock.

Abangarez, May 19, from New Orleans, with 83 bales cotton waste, 740 cases kerosene oil and 120 pieces white oak lumber for stock; 165 pieces castings and 14 pieces machinery for Atlantic Division, and 126 packages dump car parts for Cristobal Shops (for erection).

Santa Marta, May 20, from New York, with 18 cases electrical machinery and equipment for Pacific Division; 4 cases electrical spare parts and 22 cases electrical machinery for Atlantic Division; 3,907 sacks of oats and 12 casks zinc for stock.

Oregen, May 20, from New Orleans, with 1,530 packages dump car parts for Cristobal Shops (for erection).

Allianca May 18, from New York, with 6 crates winches, 6 cases switches, 10 reels wire rope, 27 pieces machinery, 10 crates gears and shafts and 4 bundles castings for Atlantic Division; 52 boiler tubes and 7 cases repair parts for Pacific Division; 104 casks copper for Mechanical Division; 10 cases tools, 34 reels sash cord, 78 crates stove parts, 78 half-kegs rivets, 26 cases babbitt metal, 17 cases steel shafting, 317 pieces steel angles, 112 pieces steel plates, 83 pieces steel channels, 237 pieces steel bars, 90 bundles I. P. fittings, 119 pieces I. P. fittings and 400 bundles shovels for stock; and a miscellaneous cargo consisting of 2,360 packages, weighing 417 tons.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., May 25, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Andrew, Mrs. George
Barnett, J. C.
Beam, Mrs. M.
Briggs, Bernard
Cherry, D. F.
Clifford, C. S.
Cornish, L. D.
David, Samuel
Du Jardin, Mrs. John W.
Furbish, George H.
Harlow, James B.
Heuer, L.
Hobby, W. R.
Howard, R. Chester
Jensen, Adolph
Lems, Eli
Lepiez, Emile
Lugatos, Demetinos
Partello, Miss Ruth
Peterson, J. M.
Potts, Mrs. Fred
Roche, Miss Pauline
Rogers, R. R.
Rousseau, Miss Julia
Severn, Mrs. William
Smith, C. E.
Soares, J.
Thomson, J. Milo (4)
Tucker, J. Willis
Walker, L. Reed
Whaler, John W.
Wilkie, Mrs. Capt.

Auction of Dump Carts.

There will be sold at public auction, 17 dump carts, 2-wheel, for cash, to the highest bidder, at Ancon corral, Friday, May 27, 1910, at 2 p. m. For particulars apply to the District Quartermaster, Ancon.

The following vessels arrived at and departed from the port of Balboa during the week ending May 21:

Arrivals—May 16, *City of Para*, from San Francisco, *Barracouta*, from Central American ports and *Chiriqui* from Buenaventura and Tumaco; May 17, *Peru*, from South ports; May 19, *Manavi*, from intermediate ports, May 20, *Triunculo* (Oil boat), from Port Harford.

Departures—May 17, *Chile*, for South ports; May 19, *City of Panama*, for San Francisco, and *Arica*, for Guayaquil.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Advance	P. R. R.	Tuesday	May 24
Panama	P. R. R.	Tuesday	May 31
Allianca	P. R. R.	Monday	June 6
Colon	P. R. R.	Monday	June 13
Advance	P. R. R.	Saturday	June 18
Panama	P. R. R.	Friday	June 24
Allianca	P. R. R.	Thursday	June 30
Colon	P. R. R.	Thursday	July 7
Advance	P. R. R.	Tuesday	July 12
Panama	P. R. R.	Monday	July 18
Allianca	P. R. R.	Saturday	July 23
Colon	P. R. R.	Friday	July 29

CRISTOBAL TO NEW YORK.

Colon	P. R. R.	Tuesday	May 31
Advance	P. R. R.	Monday	June 6
Panama	P. R. R.	Sunday	June 12
Allianca	P. R. R.	Saturday	June 18
Colon	P. R. R.	Saturday	June 25
Advance	P. R. R.	Thursday	June 30
Panama	P. R. R.	Wednesday	July 6
Allianca	P. R. R.	Tuesday	July 12
Colon	P. R. R.	Tuesday	July 19
Advance	P. R. R.	Saturday	July 23
Panama	P. R. R.	Saturday	July 30
Allianca	P. R. R.	Thursday	Aug. 4
Colon	P. R. R.	Wednesday	Aug. 10

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

Panama railroad ships for New York leave Pier 11 at Cristobal at 3 p. m. on each day of sailing. Persons desiring to meet steamers at Cristobal should apply in advance of arrival at the Customs office, room 8, building No. 1, Cristobal, for customs line permits, which are necessary to obtain admittance beyond waiting room on pier 11.

NEW YORK TO COLON.

Metapan	U. F. C.	Thursday	May 19
Prinz Joachim	H.-A	Saturday	May 21
Zacapa	U. F. C.	Thursday	May 26
Prinz Aug. Wilhelm	H.-A	Saturday	June 4
Metapan	U. F. C.	Friday	June 3
Prinz Joachim	H.-A	Saturday	June 18
Prinz Aug. Wilhelm	H.-A	Saturday	July 2
Prinz Joachim	H.-A	Saturday	July 16
Prinz Aug. Wilhelm	H.-A	Saturday	July 30
Prinz Joachim	H.-A	Saturday	Aug. 13
Prinz Aug. Wilhelm	H.-A	Saturday	Aug. 27
Prinz Joachim	H.-A	Saturday	Sept. 10
Prinz Aug. Wilhelm	H.-A	Saturday	Sept. 24

COLON TO NEW YORK.

Santa Marta	U. F. C.	Friday	May 27
Prinz Joachim	H.-A	Tuesday	June 7
Prinz Aug. Wilhelm	H.-A	Tuesday	June 21
Prinz Joachim	H.-A	Tuesday	July 5
Prinz Aug. Wilhelm	H.-A	Tuesday	July 19
Prinz Joachim	H.-A	Tuesday	Aug. 2
Prinz Aug. Wilhelm	H.-A	Tuesday	Aug. 16
Prinz Joachim	H.-A	Tuesday	Aug. 30
Prinz Aug. Wilhelm	H.-A	Tuesday	Sept. 13
Prinz Joachim	H.-A	Tuesday	Sept. 27

NEW ORLEANS TO COLON.

Atenas	U.F.C.	Saturday	May 21
Turrialba	U.F.C.	Saturday	May 28
Abangarez	U.F.C.	Saturday	June 4

COLON TO NEW ORLEANS.

Abangarez	U.F.C.	Thursday	May 26
Atenas	U.F.C.	Thursday	June 2
Turrialba	U.F.C.	Thursday	June 9

The next sailings of the Leyland Line will be as follows: *Colonian* June 11, and *Californian* June 20, for New Orleans, via Kingston, Ja.

Hamburg-American steamers leave for New York at 10 a. m., and for Port Limon every Wednesday at 2 p. m.

Royal Mail steamers leave for New York early in the morning and passengers should be on board the night before.

United Fruit Company ships for New Orleans leave at 3 p. m., and for New York at 10 a. m.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

Launch Service to Taboga.

The steamer *Sanidad* leaves the dredge landing at Balboa at 9 o'clock Tuesday, Thursday and Saturday mornings. On the return trip it arrives at Balboa about 4.30 p. m. in time to make connections for the 5.30 train at Panama.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, JUNE 1, 1910. No. 40.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer

NOTES OF PROGRESS.

Now Suction Dredge for Gatun Dam.

A 20-inch suction dredge for use in making the hydraulic fill of Gatun Dam set out from Baltimore on May 21, under tow of the tug *Tormentor*, and if no accident occurs the voyage to Cristobal should be completed during the first week in June. This dredge will be added to the fleet of 20-inch suction dredges engaged on the hydraulic fill of the dam, and will be the fourth in that service, two south of the dam and two north of it. The requisition was placed a year ago and the contract was awarded to the Ellicott Machinery Company of Baltimore. A completed dredge set out under tow of the *Tormentor* for Cristobal on December 9, 1909, and a few days later the tug returned to port with the news that the dredge had sunk. The loss was borne by the underwriters, and the builders immediately began work on a new dredge, the one that is now en route to Cristobal.

The dredge will be capable of digging to a depth of 42 feet and, like the others on the dam work, will deliver into a floating discharge pipe line laid on pontoons to the toe of the dam, and thence over the toe. It will be 130 feet long, 37 feet broad, 11 feet deep, and will draw about 7½ feet of water. It will be of steel throughout, framed transversely, and stiffened by two longitudinal and four transverse bulkheads. There will be two main pumps of the side suction type. The boilers are of the water tube type, and are built for using crude oil as fuel, although coal also may be used.

Launch for Gatun Lake.

One of two launches ordered for the Atlantic Division, to be used as tenders for the dredges making the hydraulic fill of Gatun Dam, will be floated in Gatun Lake upon its arrival late this month. Two suction dredges are at work pumping from south of the Dam into the hydraulic fill of the western section, and the launch is needed to carry supplies to them, and make communication between them and the land less difficult. The other launch will be used for similar service to the dredges north of the dam. The launches are 32 feet long, 7 feet wide and are built of white oak with coppered bottoms. Each one will have a 15-horsepower, 4-cycle, 4-cylinder gasoline motor, and will be fitted with bronze shaft and propeller to withstand salt water.

Dynamite Contract.

The contract for dynamite for the fiscal year 1911 has been let to the DuPont-De Nemours Powder Company of Wilmington, Del., the amounts and prices being as follows:

45 per cent—8,540,000 pounds, at 11.7 cents per pound.

60 per cent—5,187,000 pounds, at 12.7 cents per pound.

The amounts quoted are estimated as the possible requirements for the fiscal year, but not more than 50 per cent of the estimated amount need be purchased. The first deliveries will be made in August.

Fast Contract Work.

The erection and practically the entire completion of a type-27 six-room house on the knoll opposite the insane asylum grounds at Ancon, which was accomplished in the space of five days recently, constitutes one of the fastest building jobs on record in the Canal Zone. The contract was awarded under the usual arrangement, that of requiring the contractor to furnish the labor and do the work, while the Commission supplied the material. Practically all the material was on the ground when the contractor began work on Tuesday, May 17. By the following Saturday, May 21, the carpenter work had been completed and the plumbing installed. Monday morning, May 23, the premises were cleaned up, tools removed, and by noon of that day the building was ready to be turned over.

Storehouse at Gorgona Shops.

The contract for excavating 3,287 cubic yards of material immediately south of Gorgona shops has been let to M. B. DePutron at 26 cents a cubic yard. After the excavation is completed it is proposed to construct a storehouse and yard for iron, steel, and other supplies.

Wireless Telegraph Station at Colon.

There has been installed in the U. S. Navy Wireless Telegraph Station at Colon a complete new wireless telegraph equipment including antennae. The new equipment consists of the latest improved design of Fessenden apparatus manufactured by the National Electric Signaling Company.

The transmitting apparatus is of the high frequency 500-cycle type, with rotating spark gap attached to a generator of 25 kilowatts capacity. Two compressed air condensers of 0.036 cubic feet a minute capacity, each operating under 250 pounds air pressure are also used. The transmission ranges on this apparatus include Washington, D. C., Norfolk, Va., New Orleans, Key West and Guantanamo. Power for operating the transmitter is received from the Isthmian Canal Commission plant at Gatun. The receiving apparatus includes an electrolytic detector with special tuning devices for eliminating the interferences from other nearby stations.

The new installation was put in operation on March 1, and since this time has demonstrated its superiority over the old outfit.

Agua Dulce Pumping Station.

It is expected that the Agua Dulce hydraulic pumping station, built on the west bank of the Canal opposite Corozal, will be ready to start up shortly after July 15. The foundations for the four multistage pumps are completed and the pumps installed.

New Motors at Quarry Plant.

The 30-horsepower motors used at the Ancon quarry plant in operating the four small crushers failed to furnish sufficient energy to drive the machines at their maximum capacity. Four 50-horsepower motors were therefore ordered and have recently been installed. The primary, or large crusher is operated by a 250-horsepower motor which furnishes ample power.

Panama Street Improvements.

The new street improvements in the hitherto unimproved sections in the city of Panama, which were begun on December 6, 1909 with funds furnished by the Congressional appropriation of $800,000, are advancing favorably. In the Cocoa Grove district the work is entirely completed, and in other parts of the city it is approaching termination. In Guachapali, the water and sewer system is installed and the street work advanced to the point of rolling. In the Avenue B district all sewer and water pipe installations are made, and rolling is in progress on the streets. This section, with the exception of Lyons Street upon which no work has been done as yet, is nearly finished. Water mains and sewers have been installed along José de Higinio Street and Ancon Boulevard from the Tivoli road to Fourth of July Street, and a force is now engaged on the street work. In San Miguel sewer and water pipes are being installed, but no work on the streets has been accomplished there except grading. The original estimate called for street and other sanitary improvements in the small district of Pueblo Nuevo located on the west side of the Panama Railroad almost directly in front of Hotel Tivoli, but the work has been abandoned as the locality will be made a part of DeLessep's park, and all dwellings on the land will be removed ultimately. Some work, not contemplated in the original plans, has since been authorized. This consists of laying a 6-inch water pipe and an 8-inch sewer pipe along the Sabanas road through Caledonia to the new orphan asylum, repairs to the Sabanas road within the limits of the city of Panama, and to some sections of the same thoroughfare farther out. Repair work on the Sabanas road will be started this week.

Aids to Navigation in Shelter Cove.

Two lights for use in navigation have been placed in Shelter Cove in Colon Harbor, where the operations for the Colon breakwaters are in progress. At present the lights are a green and a white light, but as soon as the blasting necessary in connection with the dredging operations in the cove is finished, the white light, which is temporary, will be replaced by a permanent red light.

Concrete in the Locks.

An average of 3,256 cubic yards of concrete a day was placed in the locks at Gatun in the week ending May 28. The force works in two 6-hour shifts. On May 24 all the conditions were right for a record, three of the cableways were placing concrete in the west wall and there were no accidents of consequence. The result was that 3,758 cubic yards were placed, the highest mark yet reached. Of this amount, 2,412 cubic yards were placed by the cableway plant, and 1,180 cubic yards by the auxiliary plant, while 166 cubic yards were large rock dumped into the massive masonry. On only one day did the amount of concrete placed fall below 3,000 cubic yards. A detailed statement of the week's work follows:

	CUBIC YARDS.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
May 23	2,044	824	112	2,980
May 24	2,412	1,180	166	3,758
May 25	2,320	984	7	3,311
May 26	2,142	920	51½	3,113½
May 27	2,158	858	143	3,159
May 28	2,238	892	89	3,219
Total	13,314	5,658	568½	19,540½
Previously reported				401,112
Grand total				420,652½

At Pedro Miguel the average per day of 8 hours for the week ending May 28 was 1,214 cubic yards. A detailed statement follows:

	CUBIC YARDS.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
May 23	900	276	5	1,181
May 24	1,044	388	34	1,466
May 25	852	272	57	1,181
May 26	928	108½	12	1,048½
May 27	1,060	270⅓	29	1,359⅓
May 28	912	130	6	1,048
Total	5,696	1,445	143	7,284
Previously reported				130,495
Grand total				137,779

Missing Man.

Information is requested as to the whereabouts of Haymond Collins of West Union, West Virginia, in order that the estate of his father, lately deceased, may be settled. Address Bruce Haymond, 502 Main street, West Clarksburg, W. Va.

Sailing Date of Cristobal.

The sailing date of the steamship *Cristobal* from Pier No. 11, Cristobal, has been fixed for 3 p. m., Sunday, June 5, 1910.

CANAL CONTRACTS.

Awards Must Be to Lowest Bidder—Trusts Violating Interstate Commerce Laws May Bid.

The Commission adopted the policy in 1909 of making annual contracts for standard supplies, following the practice of the Army, Navy, and other services of the Government. Advertisements for supplies for the fiscal year 1911 were placed in April, and the question arose whether bids could be entertained from corporations or companies, parties to combinations in restraint of trade. In connection with the contract for oils and greases, on which it was expected the Standard Oil Company would submit a bid, the Secretary of War asked the Attorney General for an opinion as to whether the Commission could legally refuse to entertain a bid.

The Attorney General, under date of April 19, 1910, holds that contracts for materials to be used in the construction of the Panama Canal must be awarded to the lowest responsible bidder who complies with the specifications, no matter if he be a party to a combination in restraint of trade. On May 26, 1909, the Secretary of War issued a circular forbidding bureaus in his department to enter into contracts with corporations or firms adjudged parties to combinations in restraint of trade. On December 11, 1909, he issued another circular of the same character, referring to the Standard Oil Company of New Jersey and other corporations. On February 9, 1910, a circular was issued exempting from the operation of the two former circulars such persons or companies as were holders in good faith of goods purchased from the companies or corporations under ban.

Purchases by the Commission have been made under the provisions of the following Joint Resolution, and Executive Order:

> That purchase of material and equipment for use in the construction of the Panama Canal shall be restricted to articles of domestic production and manufacture, from the lowest responsible bidder, unless the President shall, in any case deem the bids or tenders therefor to be extortionate or unreasonable—*Joint Resolution, June 25, 1906.*
>
> Contracts for the purchase of supplies, involving an estimated expenditure exceeding $10,000, shall be made only after due public advertisement in newspapers of general circulation, and shall be awarded to the lowest responsible bidder, except in case of emergency, when, with the approval of the Secretary of War, advertising may be dispensed with.

The opinion of the Attorney General states:

* * * * * * * * * * * * * * * * * * * *

> The whole question involved in this inquiry is, therefore, whether or not a person or corporation who offers to sell to the Government, pursuant to public invitation to bid, material and equipment for use in the construction of the Panama Canal, and who is otherwise responsible and able to carry out his contract, may be deemed to be not a "responsible bidder" because he is a party to an unlawful trust or monopoly, or otherwise carrying on his business in violation of the Sherman Anti-Trust Law:
>
> The responsibility of a bidder in this aspect would seem to depend upon whether or not his contracts for the sale and delivery of merchandise are enforceable under the law. In the case of Connolly v. Union Sewer Pipe Company (184 U. S. 540) this question was squarely raised. The Pipe Company sued Connolly upon promissory notes given in Illinois on account of the purchase by the defendant from that company of certain sewer pipe. The defendant disputed his liability on the ground that at the time of the purchase of the goods the company was in a combination in restraint of trade, such as was forbidden by the common law and was contrary to the anti-trust act. (The decision of the Supreme Court in which both claims of the defendant are overruled is quoted). This decision furnishes a complete answer to your inquiry unless its effect be modified by the later decision of the Supreme Court in the case of Continental Wall Paper Company v. Voight & Sons Company. * * * *
>
> (Statement of the case and decision of court quoted to effect that defendant was a party to the combination in restraint of trade of which the plaintiff was also a party, and that the plaintiff could not have judgment because it would in effect aid in the execution of agreements which constituted an illegal combination) * * * * *
>
> * * * The distinction seems to be clearly drawn, and in effect, to establish that a court will not enforce a contract for the sale of goods when such contract is part of an agreement by which a combination in restraint of trade is effected, and where the enforcement of the contract would be in effect lending the aid of the court to the carrying out of the unlawful scheme or combination; but that the mere fact that a a vendor is carrying on business in violation of the anti-trust act will not operate as a defense to one who deals with it by buying goods or otherwise, nor protect him from the enforcement of his contracts with such vendor. On the other hand it would seem equally clear that the mere fact that a vendor of goods is a party to an unlawful trust or combination in restraint of trade would not protect him from an action to enforce a contract to sell and deliver goods.
>
> For these reasons I am of the opinion that you cannot ignore the requirement of the Joint Resolution and Executive Order referred to above, to award the contract for the purchase of material and equipment for use in construction of the Panama Canal to the lowest responsible bidder, simply because such bidder has been adjudicated to be a party to a combination in restraint of trade in violation of the Sherman Anti-Trust Act.

The general practice of the Commission has been to award contracts to the lowest responsible bidder whose bid conforms with the specifications, but in a few instances there has been a departure from this practice, notably in cases where a higher bidder has quoted prices on material or machinery for which repair parts were already on the Isthmus, thus making his offer the more economical for the Government.

Rock Crushing Operations.

A statement of the work done at the Porto Bello crushers, by days, for the week ending May 28, follows:

DATE.	Hours worked.	Cubic Yards.
May 23	13:50	3,115
May 24	11:20	3,110
May 25	15:46	3.490
May 26	7:20	2,180
May 27	12:30	2,615
May 28	10:30	2,275
Total	71:16	16,785

A statement of the rock crushed at the Ancon quarry plant, by days, for the week ending May 21, follows:

May 16	5:20	1,212
May 17	5:45	1,272
May 18	6:15	1,440
May 19	5:10	1,092
May 20	7:00	1,320
May 21	5:00	852
Total	34:30	7,188

A statement of the rock crushed at the Ancon quarry plant, by days. for the week ending May 28, follows:

May 23	3:20	528
May 24	7:10	1,500
May 25	6:25	1,200
May 26		*
May 27		*
May 28		*
Total	16:55	3,228

*Shut down for the installation of four 50-horsepower motors.

Obituary.

John H. Barry, a white American in the employ of the Division of Police, died at Colon Hospital on May 22. He was 41 years of age and came to the Isthmus from Washington, D. C., two years and seven months ago.

CULEBRA CUT AT NIGHT.

The Men Who Work There and the Work They Do.

Five o'clock in the afternoon is "quitting time" in Culebra Cut. The shovels cease to dig, spoil trains lay up for the night, and the men who have been working since 7 o'clock in the morning start up the steep banks for their homes in the villages along the edge of the Canal, or gather in little groups to wait for the labor trains. Yet the work does not entirely cease, because "quitting time" for the six thousand day workers marks the beginning of labor for the four hundred or more men who work in the Cut at night. As the labor trains creep along the construction tracks in the bottom of the Cut gathering their passengers, the coal train starts down one of the inclines into the Canal, the repair train sets out from the shops at Empire, new gangs man some of the batteries of drills, and track repair men stand by for their work.

The night is spent in preparing for the day, and it is because of this unceasing work that the great excavation machine, of which forty steam shovels and six thousand men are the most important units, moves smoothly day after day. It is this in part that has made it possible to do in the past three years an amount of excavation that it was once believed could scarcely be accomplished in twice that time. An important part of the excavation is the night work, although no shovel is lifted to a car, and no load of dirt started to the dumps between sunset and daybreak.

It is the duty of the coal train crew to see that every steam shovel has coal enough in its bin to last through the following day. A dozen cars of coal are hauled each night from the storage pile into the Cut. The train runs alongside a shovel, uncouples a car and leaves it there, with two negroes whose work is to fill the shovel bin. As soon as this car is uncoupled the train moves on. It stops alongside shovel after shovel until all the cars have been distributed—"spotted" the men of the coal train say. By the time the last car is "spotted" the first shovel has been supplied, and the locomotive begins to collect the cars and distribute them again to other shovels. If the shovels are favorably situated for coaling; if the tracks are clear of trains and free from rocks; if no derailment occurs, and if all the men work fast, the coaling is finished by midnight. If all does not go well, day may be breaking when the last shovel is supplied. But no matter how long it takes the coaling must be done and, therefore, it sometimes happens that the train of empty coal cars is crawling back to the storage pile after sunrise, when the labor trains are bringing the day workers into the Cut.

Any one who has watched the steam shovels in action realizes that there must be much work for the repair men. Although the shovel crew is warned that a "record yardage" is not so desirable as a fair average with a small repair bill, the emulation among the men is intense, and repair bills are intangible while records stand and are talked and written about. And in the end, with all question of emulation disregarded, the usage given a steam shovel must be determined by the men who operate it. Sometimes the steel teeth of the dipper are run into a bank of rock apparently well shattered by dynamite, only to find firm resistance. Whether he will wait until the rock is further broken; will attack another part of the bank and by digging around the refractory ledge loosen it, or will draw back the dipper and with the force of a long blow try to drive the teeth into the rock and lift it out—these are items in the steam shovel man's knowledge. A hundred times a day he must make such decisions. It is not unusual, therefore, to see a 90-ton shovel stagger under the work it is set to do, or to see the dipper stick stand rigid, because there is not power enough in the engine to force the shovel through the rock. Without these unusual burdens even, the shovel's work is racking, and scarcely a day passes without the need of strengthening or replacing some part of it, in order that it may continue its work on the following day. All night the repair men are at work with crane, forge, drill, wrench, and hammer, because "tomorrow" may always be a record day in Culebra Cut, and every shovel must be ready to do its best.

One who spends the night in a village along the Cut, and who has not become accustomed to the sensation, is startled about midnight, and again about daybreak, by a series of explosions. Buildings shake as though in an earthquake, and the pattering of small bits of mud and rock on the iron roofs heighten a half-waking illusion that the town is undergoing bombardment. Residents of the villages know that the explosions are only blasts of dynamite down in the Canal, where the men at work on the tracks use surface charges to help them dispose of big stones, or that the mines placed during the night by the powder gangs are being set off. The blasting goes on without end. Not to such an extent as during the day, but in several places at night, churn drills are at their work making deep holes into which dynamite is tamped, so that the rock may be broken into pieces small enough for the shovels to handle.

The watchmen on the shovels tending the fires so that "steam may be up" in the morning; the pump tenders at the drainage sump at Bas Obispo; the men who repair tracks and shovels, and those who drill holes and break rock with dynamite, all have their work and each makes some noise in doing it. Yet the Cut is very quiet at night, because it is nine miles long, and fully 800 feet wide near the surface of the ground, and the isolated sounds lose their strength before they have a chance to join their dissonance with others. There is one exception to this rule, however. At the point where the crest of the continental divide is pierced, all the sounds of the night work seem to focus. The whistle of a locomotive at Bas Obispo; the "chug-chug" of the churn drills at Empire; the tapping of a pneumatic hammer on the iron boom of a shovel, and the roar of the dynamite blast all travel along the chasm until they strike the rock sides of Gold and Contractor's hills, towering 400 feet above the bottom of the trench. There they ricochet from wall to wall, and when many of them meet, they make a bewildering uproar..

But on the whole the Cut is very quiet while the night work goes on, and it is more by the lanterns moving here and there, and the glare of the electric headlights on the locomotives, that one standing on the bank would divine the amount of labor that the darkness hides. A few evenings ago, the repair gang had a long job to do under the shadow of Gold Hill, and the searchlight of the locomotive played steadily down the Cut for an hour or more. It threw into eerie relief the crumpled mass of rock and earth that is moving slowly into the Canal at Culebra, lighted up the labor quarters along the edge of the Cut, blotched the west bank with alternate light and shadow, and in the bottom of the trench showed scores of moving shadows where the night men were at work. This was a clear night, but there are many nights when blinding rain arrests the rays even of the searchlights, and the rush of water is added to or drowns the sound of labor. And there are nights when a heavy mist settles in the Cut, when the opposite bank is visible, but in the trench below one can see only a white river of fog, so dense that it looks like water. Then the trains move slowly along the hidden tracks; the lanterns are held close to the faces in the repair gang, and the powder men move cautiously from hole to hole. When the morning sun dispels this fog, the night gangs have disappeared, but they have left the Culebra Cut machine ready for whatever demands may be made upon it during another day.

Farewell Banquets to Mr. Rourke.

A farewell banquet was given Mr. L. K. Rourke by the Knights of Columbus on the Isthmus on Saturday night, May 21, at Hotel Central in Panama. There were about 75 present. The dining hall and tables were appropriately decorated with flowers and plants. Mr. P. L. Fellinger officiated as toastmaster, and addresses were given by Mr. Rourke, Mr. Enrique Lewis and Rev. Father Allot. An orchestra furnished music and Mr. Thomas Campbell gave several songs. Mr. Rourke is a trustee of the Panama Council of the order and was one of the most active in bringing about the organization of the Canal Zone branch. During the evening he was presented with a silver loving cup.

A banquet was tendered Mr. Rourke at the Hotel Tivoli in Ancon on the night of May 28. Two hundred men were present. The Tivoli orchestra rendered a program, and toasts were responded to by Lieut.-Col. W. L. Sibert, Lieut.-Col. C. A. Devol, Messrs. E. J. Williams, R. W. Bergin, Wm. L. Murray, A. S. Zinn, J. W. Sneed, H. C. Wertz, and Rourke. A cable message was read from Lieut.-Col. D. D.Gaillard, who is on leave of absence in the States. At the request of Mr. Rourke the health of the Chief Engineer, Col. Goethals, who is on leave in the States, was drunk and three cheers for him were given. During the evening Mr. Rourke was presented with a stick pin.

Washington Hotel Opened to Public.

The sleeping accommodations at the Washington Hotel at Colon have been opened to the traveling public, effective as of May 15. The rooms have been newly furnished and may be had singly or en suite with bath. The rate is $2 a day a room for all rooms, excepting two for which the rate is $1 day. A 50 per cent reduction from these rates is made to employes of the Isthmian Canal Commission and the Panama Railroad Company. The hotel will be conducted on the European plan only. Meals table d'hote or a la carte may be obtained by the general public as usual in the hotel dining room.

NEW ANCON CORRAL.

Every Facility for Conveniently Housing Animals and Vehicles.

The buildings at the new corral on the north slope of Ancon Hill, just east of the insane asylum reservation, have been completed and are occupied. The removal from the old corral site was begun on May 1, and completed during the following week. The buildings, ten in number, comprise everything necessary in a modern sanitary establishment of this kind. The grounds are terraced, provided with a system of concrete drains, and are metaled with a layer of crushed rock about 12 inches thick covered with a top dressing of Chagres River gravel.

The buildings include an office, carriage shed, wagon shed, two large stables, sick bay, dispensary, blacksmith and horseshoeing shop, wagon repair shop, and an isolation hospital located outside the grounds where animals afflicted with diseases that are likely to spread are kept. Among the other conveniences is a concrete platform where the animals are washed down. Each stable contains a double row of stalls, 94 stalls in one building and 64 in the other, with passageways extending through the center. Narrow tram roads run the entire length of the passageways over which tram cars are operated for the transportation of feed. The largest stable is divided in the middle by a feed room, and in the smaller building the feed room is at one end. The stalls are floored and built up on the sides with 2-inch planking, and the floor planking is laid on concrete, which extends out from the buildings to form a 5-foot sidewalk, separated from the stalls by a small drain. The upper edges of the stall sides, as well as the edges and sloping inside surfaces of the mangers are sheathed with sheet iron to protect the wood from the animals' teeth.

The sick bay contains 14 ordinary stalls and two box stalls. The dispensary consists of a shed open at the front and one side. It is fitted with shelves for the storage of veterinary supplies, and also contains a stock, or strongly built pen, where animals are confined when operations or other difficult treatments become necessary. The blacksmith and horseshoeing shop has one white blacksmith and three colored assistants, and the wagon repair shop, one white wheelwright with four colored assistants. One part of the paint shop is partitioned off as a harness shop and as a repository for stock harness. All ordinary repairs to vehicles and equipment are performed at the corral, and in times past vehicles have been entirely reconstructed .Experience has demonstrated, however, that it is not economy to rebuild, and at the present time when a vehicle has become wornout, it is disposed of and a new one purchased.

Adjacent to the corral are about five acres of land, which will be fenced in so that the animals can be turned out to pasture. There are now 160 animals at the new corral.

The epidemic of fever which attacked a number of the animals at the Ancon corral, causing several deaths among them, is now thought to be under control. There has been no further spread for some time and 16 of the animals afflicted are convalescent. The disease is unknown to the experts on animal complaints on the Isthmus, and has been almost wholly confined to mules. The course of the disease has been carefully watched by the officials at the Ancon Hospital laboratory and all the symptoms noted. So far, it is regarded as an entirely new disease.

Commission animals are fed oats, bran, timothy hay and fresh grass. A new kind of feed is being experimented with called calfalfa. It is merely alfalfa ground as fine as cottonseed meal, and is used as a mixture with other feed.

The private animals cared for by the Quartermaster's Department at Ancon are still kept at the old corral. Just what disposition will be made of the old site has not yet been fully determined, but a number of the vacated buildings are being torn down, the material in which, lumber and galvanized iron, is still sufficiently well preserved to be further utilized. Most of the buildings at the old corral were put up in French times, the locality, which included the present post-office site, and the Supreme Court building being known as "Ancon Section."

The Hermit of Empire.

The attention of passengers on Panama railroad trains passing through Empire is frequently attracted to a little tumbled-down shack that stands a few yards from the track within the limits of the cemetery, and the figure of a man in the opening that serves for a door. For nearly half a century, this shack, which consists of a rude frame work protected at the sides and over the top with pieces of galvanized iron roofing, has stood on that site, and the inhabitant, to all appearances, a deaf and dumb Chinaman, has made it his home for that period.

The stories concerning this hermit of Empire conflict, and, as he either cannot or will not speak it is improbable that anything definite will ever be known about him. He is variously supposed to have come here from Peru, having left his home in San Tong as a boy; to have come with his parents as a small child to work with the Panama railroad in the beginning of the latter half of the last century; to have been a well-to-do merchant in Empire, and to have lost his fortune through the trickery of his partner, whom he is supposed to have followed to Costa Rica, whence he returned, a deaf mute, to take up his dwelling in the cemetery, which was at that time used by the French. The single point on which these stories agree is that he was well educated, in Spanish, English and French, and that some shock deprived him of the power of speech.

From time to time, he has been examined by the Commission's physicians and has been declared to be in sound physical condition, with the exception of the fact that he cannot speak. It has never been decided whether or not he is totally deaf, as, there are indications at times that he is sensible, through hearing, to the approach of persons, or to other sounds. At one time he was transferred to the hospital for the insane but after observing him two weeks the physicians declared him sane.

He avoids his countrymen and takes his food rather from the natives and Jamaicans in the Empire market where he comes every morning to beg, carrying a tin plate and a bag for the provisions. He will not take more than he requires for one, or at most two days, and shows his preference for the various meats and vegetables by pointing them out. He does not seem to care to take money and seldom will do so. In his shack there is a small stove on the ground and such articles of food as he keeps there are neatly stored away in tin cans. Bottles containing clean drinking water are kept on the stove. There is a board, ten inches wide on which he sleeps and this he uses for a seat in the daytime. Although, according to the length of time he has been on the Isthmus he must be over sixty years old, his face has the appearance of a much younger man. He is somewhat thin and shows a pallor, as if from confinement. He seems shy in the presence of strangers, though he shows no fear when going about in the Empire market. His clothing is clean and neat. Two years ago he was removed to a point north of the cemetery, but on the day following his removal he took his property back to the old locality. He has been offered the use of a little building that stands in the back of the cemetery belonging to the Sanitary Department, where it is thought that not only could he be better protected from the rains but also that he might act as watchman, but he persistently refuses to leave the old site.

Removal of Chinese Dead.

It has been the custom of the Chinese Red Cross Association to exhume the bones of the Chinese dead, buried at Mount Hope cemetery, and to ship them back to China for reinterment. About two years ago the bones of 30 Chinese were removed and shipped, and recently the bones of about 20 others have been exhumed from the section of Mount Hope cemetery set apart for members of the race, and prepared for shipment. Under the sanitary regulations, the graves cannot be opened until 18 months have elapsed since the original interment, and the bones are required to be placed in hermetically sealed metal boxes. The removal is conducted very methodically, involving cleansing the bones, and arrangement in their proper order, after which they are strongly tied together and placed in canvas sacks, the bones of one individual to a sack. Nine sacks are usually placed in one metal-lined case for shipment.

Fatal Shooting Near Cucaracha.

Santos Sanchez Augustin, a white Spaniard was shot and killed by Fernandez Heros, a fellow Spaniard, at a point two and one-half miles from Cucaracha about 5.30 p. m., May 29. The murderer is in custody at Empire awaiting trial.

Forty delegates to the Southern Commercial Secretaries' Association convention recently held at New Orleans, accompanied by members of their families, are expected to arrive at Colon from New Orleans on the *Turrialba* on June 2. They will visit the Canal works and Panama. On their return they will stop at several Central American ports.

Seventeen dump carts were sold at the old Ancon corral on Friday, May 27, at an average price of $21.58 a cart, the total sales amounting to $367. The carts were graded into three classes according to condition, each class being bid on separately. There were two bidders.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

EMPIRE.

The Empire Y. M. C. A. bowlers took three straight games from the Gatun Y. M. C. A. team last Friday night.

A moving picture show was given Saturday night, May 28. Pictures were brought direct from the States.

The new handball court is completed, and is affording interest to the men.

A debate will be held on Friday night, June 3, at the Y. M. C. A. Subject—"Resolved that the United States was too liberal in its treaty of 1904 with Panama." Affirmative, Perry Brown, J. R. McNeal. Negative, Dr. A. L. Haines, Rev. C. C. Nellis. Judges, F. A. Gause, C. C. Carr, F. C. Freeman.

GORGONA.

The highest score rolled on the alleys during the month was made by F. King, 244. The highest score last week was rolled by F. King, 213.

The moving picture show last Friday night was well attended.

At the song service last Sunday evening, Mr. E. A. Putnam of Culebra delivered the address and special music was furnished by Mr. E. C. Briggs, Mr. Ernest Reinhold and Mrs. T. S. Booz.

CRISTOBAL.

The bowling standing on May 28, was:

	Won.	Lost.	Per Cent.
Commissary-Subsistence	13	5	.722
Quartermaster	9	9	.500
Miscellaneous	7	11	.389
Dry Dock	7	11	.389

The schedule for the coming week follows: Tuesday, Quartermaster vs. Miscellaneous; Wednesday, Commissary vs. Dry Dock; Thursday, Commissary vs. Miscellaneous; Friday, Dry Dock vs. Quartermaster.

The Sunday meeting was led by Mr. Goodman. Subject, "Favorite Songs." Special vocal solos were rendered by Mr. Alfred B. Dickson of Empire.

Last Monday a smoker for members was given.

Gymnasium classes under the direction of Mr. Burrell will be started Wednesday night of this week.

Thursday night there will be held a meeting of the track and field teams.

GATUN.

The four-team bowling tournament closed Thursday evening, when team No. 2 won two games from team No. 3. The winning team were composed of Severn (captain), Dalton, Warr, Keirman and Bronwell. The standing of the teams follows:

	Won.	Lost.	Per Cent.
Team No. 2	6	3	.666
Team No. 4	5	4	.555
Team No. 3	4	5	.444
Team No. 1	4	5	.444

The Class A and B pool tournament now in progress is proving interesting. The standing of the players to date follows:

Class A.	Won.	Lost.	Per Cent.
Hughes	2	0	1000
Dalton	1	0	1000
Gramnson	1	1	.500
Gamble	1	2	.333
Bailey	0	1	.000
Class B.	Won.	Lost.	Per Cent.
Kenney	3	0	1000
Smith	1	1	.500
Porter	1	2	.333
Shannault	0	2	.000
Jones	0	2	.000

All men wishing to enter in any of the events to be held on the Fourth of July at Cristobal are requested to leave their names at the office. A training squad will start work this week on the Y. M. C. A. track.

The Glee Club held a meeting on Friday evening, and several out-of-town members were added. The Club is offering a prize of $5 gold for the best design for a poster to be used for advertising purposes, and would be pleased to have anybody along the line enter into the competition, which closes on July 1. For particulars, address Charles M. Lahm, Secretary, Gatun.

PORTO BELLO.

The ice cream and cold drink stand has been in operation for a week and has proved an important addition to the clubhouse.

A backboard for handball has been put in and in a short time games will be started.

Mail boxes have been made at the Y. M. C. A. for the members, who can now obtain their mail at any hour of the day or night.

The membership list has been steadily growing and has now passed the 100 mark.

An "open house" was held May 20. The ladies from the hill came down and spent an enjoyable evening. Singing and playing by Mrs. Logan, Mr. Pompeji and Mr. Lynch; basket ball, boxing and refreshments were features of the evening's entertainment.

Rainfall, May 1 to 28, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	2.47	15	9.64
Balboa	2.08	15	8.76
Miraflores	1.94	28	9.93
Pedro Miguel	3.37	28	13.05
Rio Grande	2.70	17	10.87
Central Section—			
Culebra	3.01	7	10.25
Camacho	2.56	7	11.18
Empire	3.35	7	10.79
Gamboa	3.40	7	10.95
Alhajuela	4.70	28	11.01
El Vigia	3.82	28	9.91
San Pablo	1.91	28	8.98
Tabernilla	1.83	28	8.00
Bohio	3.08	17	13.87
Gorgona	1.37	17	7.33
Monte Lirio	1.70	7	11.32
Atlantic Section—			
Gatun	5.70	26	15.35
Brazos Brook	1.33	7	11.11
Cristobal	3.99	26	11.52
Porto Bello (to 5 p. m. of 27th)	1.32	13	8.12

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, May 28, 1910.

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Lake.)
Height of low water above sea-level, ft.	125	92	46	0	0
Maximum height ab. mean sea-level, feet:					
Sunday, May 22	133.6	98.4	53.3	18.9	17.5
Monday, May 23	129.0	95.8	49.6	17.8	17.3
Tuesday, May 24	129.9	95.9	49.2	17.2	17.0
Wed'esday, May 25	129.4	95.6	49.2	17.0	16.6
Thursday, May 26	129.8	95.8	48.9	16.9	16.7
Friday, May 27	134.6	99.0	53.0	18.2	17.0
Saturday, May 28	143.3	104.0	61.8	20.9	17.6

Band Concert.

The Isthmian Canal Commission Band will give a concert at Bas Obispo, C. Z., on Sunday, June 5, 1910, at 6 p. m.

1 March—*En Masse*.....Reeves
2 Selection—*The Prima Donna*.....Herbert
(By request.)
3 Waltz—*Impassioned Dream*.....Rosas
4 Potpourri of Late Songs.....Schulz
5 Overture—*Hungarian Lustspeil*.....Keler Bela
6 { *a* Intermezzo—*Osceola*.....Spaulding
{ *b* Medley March—*Come Back to Connemora*.Grey
7 Trombone Solo—*Evening Star*.....Wagner
Charles A. Whitney.
8 Concert Number—*Narcissus*.....Nevin
(By request.)
9 Selection—*Faust*.....Gounod
10 March—*Semper Fidelis*.....Sousa

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Hotel Tivoli, on Sunday, June 12, at 7.30 p. m.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., June 1, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Abramson, John (2)
Bensoo, C. M.
Borg, K.
Boyd, Mrs. Mary R.
Broderick, T. A.
Burnett, Jack R.
Carney, Frank A.
Doyle, Matthew
Hall, Lewis F.
Henderson, Miss Mabel
Hill, Mrs. Hellen
Hill, W.
Jemker, L.
Joyner, Charles K.
Kunda, Ernest (pkg)
Lamont, John
Little, David, J.
McPeke, Mrs. John
Miller, E. A.
Moore, F. F. (2d class)
Moseley, Philip P.
Nichols, F. K.
Papadogonau, Vasil
Peak, A. F.
Potter, R. B.
Sheridan, P. L.
Smith, Mrs. Dwight
Smith, Elbert O.
Spichler, John
Thompson, Clyde A.
Turner, Mrs. Olive
Walton, Ernest
Warreu, Lee
Whitwood, Leroy
Willis, W. G.

OFFICIAL CIRCULARS.

Transportation Forms.

CULEBRA, C. Z., May 23, 1910.

CIRCULAR No. 329:

Effective this date, the following transportation forms, recommended by a committee of which Mr. A. C. Sessions, Superintendent of Transportation, was chairman, will supersede all similar forms now used for the same purpose by the Isthmian Canal Commission and the Panama Railroad Company, with the two exceptions noted below—Forms 255-C. E. and 256-C. E.—which are intended for Isthmian Canal Commission use only:

Form 253-C. E.—Release of Responsibility for Tools and Material.

Form 254-C. E.—Yardmaster's Report of Loads and Empties Received and Delivered.

Form 255-C. E.—Train and Engine Crew Time Slip. (For I. C. C. use only).

Form 256-C. E.—Conductor's Daily Work Report. (For I. C. C. use only).

Form 257-C. E.—Wrecking Outfit Report.

Form 258-C. E.—Personal Injury Report.

Form 259-C. E.—Report of Accidents to Trains.

Form 260-C. E.—Train and Engine Crew Sheet.

The Depot Quartermaster now has the above forms in stock, and the same may be secured by making requisition in the regular way.

H. F. HODGES,
Acting Chairman, Isthmian Canal Commission,
Second Vice-President, Panama Railroad Company,

Vacations in Jamaica.

CULEBRA, C. Z., May 18, 1910.

LIEUT.-COL. JOHN L. PHILLIPS,
Acting Chief Sanitary Officer, Ancon, C. Z.

Sir—Pursuant to the recommendation contained in your letter of the 16th instant, employes will be permitted in future to spend their vacations in the parish of St. Elizabeth, Jamaica, as well as in the parishes of Manchester, St. Annes and St. Andrews, specified in the Chairman's letter of November 19, 1908.

Respectfully,
H. F. HODGES, *Acting Chairman.*

Superintendent of Construction—Empire District.

EMPIRE, C. Z., May 11, 1910.

CENTRAL DIVISION.
CIRCULAR No. 121:

Effective this date, Mr. J. M. Hagan is appointed Superintendent of Construction of the Empire District, vice Mr. Dan E. Crowley, resigned.

L. K. ROURKE,
Acting Division Engineer.

Tug Service—Porto Bello and Nombre de Dios

The tug schedule between Cristobal, Porto Bello and Nombre de Dios is as follows:

PORTO BELLO SERVICE.

1. A tug will leave Dock 13, Cristobal, daily, for Porto Bello only, as soon as practicable after 9.30 a. m., Sundays excepted; and as soon as practicable after 6 p. m., Saturdays and Sundays excepted, and as soon as practicable after 7 p. m., on Sundays.

On each of the trips, the tug will tow such barges as may be destined for Porto Bello. Upon arrival there the provisions, if any, will be discharged as rapidly as possible, and the tug returned without delay to Cristobal, bringing whatever barges there may be loaded with crushed rock. The tug will not wait for rock to be crushed, but will wait when one or more barges may be filled by loading directly from the shipping bins. On Saturdays, the tug will return, leaving Porto Bello at 5.30 p. m., in order that employes desiring to visit Cristobal may have an opportunity to do so.

The *Mariner* should be used for this service as far as practicable, and should, upon arrival at Cristobal, continue with its tow direct to the points of destination of barges. When the *Mariner* is used on this schedule, it will leave the Cableway, Gatun, not earlier than 3 p. m., and pick up on the way down all rock barges at that or other points for Porto Bello; and will not stop at Dock 13, or elsewhere, between Gatun Locks and Porto Bello. Similarly, the *Mariner* will leave the Cableway not earlier than 6 a. m.

NOMBRE DE DIOS SERVICE.

2. A tug will leave Dock 13, Cristobal, as soon as practicable after 6 p. m. daily, Sundays excepted, with all available empty sand barges and proceed direct to Nombre de Dios, returning immediately from that place with such sand barges as may have been loaded. The tug on the Nombre de Dios service will be at Dock 13 on such days as the Subsistence Officer may desire, not later than 5 p. m., to receive provisions for Nombre de Dios.

3. Upon arrival of loaded barges at Dock 13, every effort should be made to rush them forward to proper points, and as soon as unloaded all barges should be brought to Dock 13, except in case of stone barges, when the tug *Mariner* is on the Porto Bello service, when paragraph 1 of this letter will apply.

BASEBALL.

The 1909-10 baseball season in the Isthmian League closed on Decoration Day, May 30, with games at Empire and Ancon. Empire winning from the Marines on Monday gave that team the pennant by a margin of 19 points. The game at Ancon was probably unique in local baseball history. For five innings the game was played in a heavy downpour of rain, the bases at times being entirely under water.

ISTHMIAN LEAGUE.

RESULTS OF GAMES, MAY 29.

Gorgona, 17; Marines, 1. Ancon, 3; Empire, 1.

RESULT OF GAMES, MAY 30.

Empire, 9; Marines, 2. Gorgona, 10; Ancon, 5,

STANDING OF CLUBS.

	P.	W.	L.	Pc.
Empire....	25	19	6	.760
Gorgona ...	27	20	7	.741
Ancon......	25	9	16	.360
Marines	29	5	24	.172

GAMES PLAYED MAY 29.

Gorgona.	AB.	H.	PO.	A.	E
Bath, ss.......	4	2	1	3	0
J. Ridge, 2b...	4	2	1	1	0
Barney, 3b, c..	5	2	3	3	3
Wright, 1b....	4	3	14	0	1
Emery, cf, 3b.	6	2	2	2	0
Kinney, c	4	1	4	1	0
Culbertson, lf.	6	2	2	0	1
Bailey, p......	5	2	0	5	0
A. Ridge, cf, rf	4	0	0	0	0
Everest, rf....	2	1	0	0	0
Totals	44	17	27	15	5

Marines.	AB.	H.	PO.	A.	E
Maguire, 1b, p.	4	0	8	4	0
Scarff, 2b, ss...	4	0	1	4	2
McCabe, c, 3b, p	4	0	2	2	0
Silke, 3b, lf, c.	4	0	2	0	3
Duffy, ss, c, lf.	4	1	2	1	1
M'Kelv'y, lf, 2b	4	0	1	1	0
D'ncause, cf, 2b	3	1	1	1	0
Munsen, rf, p3b	3	2	1	3	0
Burns, p, rf, 1b	3	0	4	0	2
Totals	33	4	22*	16	8

*J. Ridge out, infield fly; Barney out for running out of base line.

Gorgona...............	2	5	0	0	1	3	3	3	x—17
Marines...............	0	1	0	0	0	0	0	0	0—1

Runs—Gorgona: Bath (4), J. Ridge, Barney, Wright (3), Emery (3), Kinney, Culbertson (2), Bailey, A. Ridge; Marines: McKelvey. Runs earned—Gorgona, 5. Two base hits—Wright (2), Emery. Sacrifice hits—J. Ridge, 2. Stolen bases—Bath (2), J. Ridge, Wright, Emery, Kinney (2), Maguire. Bases on balls—Off Burns, 2; off Munsen, 2; off Maguire, 1. Struck out—By Bailey, 5; by Burns, 1; by Munsen, 2, by McCabe, 1; by Maguire, 1. Hit by pitcher—By Munsen—Barney. Left on bases—Gorgona, 11; Marines, 5. Wild pitches—Burns, 2. Umpire—Burfford. Time of game—2.5. Scorer—D. G. Hayes.

Empire.	AB.	H.	PO.	A.	E
Bell, 1b.......	4	0	8	0	1
Moore, c......	4	1	6	1	0
Dixon, ss.....	4	0	8	3	1
E. Fluh'ty, lf..	4	3	1	0	0
Murphy, 3b, 2b	3	0	2	2	1
Lewis, rf.....	4	0	0	1	0
Bryan, cf.....	4	1	1	1	0
Toone, rf, 3b..	2	1	0	1	4
Marshall, p...	3	1	1	2	1
S. Fluh'ty, rf..	2	0	0	0	0
Totals	34	7	27	11	8

Ancon.	AB.	H.	PO.	A.	E
Snyder, 2b....	4	0	2	0	1
Wrightson, 1b	4	0	6	0	1
Keller, lf......	4	0	1	0	0
Smith, c.......	4	1	10	1	1
Drennan, ss..	4	2	2	2	0
Frampton, rf.	4	0	3	0	0
Hunter, cf....	4	2	1	0	0
Pearman, 3b..	3	0	2	3	1
Russell, p	4	1	0	2	0
Totals	35	6	27	8	4

Empire.................	0	0	0	0	1	0	0	0	0—1
Ancon..................	0	0	0	0	1	2	0	0	0—3

Runs—Empire: Toone; Ancon: Smith, Frampton, Hunter. Run earned—Ancon, 1. Two base hits—Smith, Marshall. Sacrifice hits—Markley, Marshall, Wrightson. Stolen bases—Fluharty, Moore Keller. Bases on balls—Off Marshall, 2; off Russell, 1. Struck out—By Marshall, 5; by Russell, 7. Left on bases—Empire, 8; Ancon, 8. Double plays—Toone to Dixon to Bell. Umpire—Foster. Time of game 2 hours. Scorer—Moeller.

GAMES PLAYED MAY 30.

Marines.	AB.	H.	PO.	A.	E
Maguire, 1b..	2	1	17	0	0
Scarff, 2b.....	2	1	1	3	1
McCabe, c, 3b.	4	0	0	2	0
Silke, lf	3	1	0	0	1
Duffy, c, 3b ..	4	0	3	4	2
Thompson, ss	3	0	1	1	1
Kennedy, rf .	3	0	0	0	0
Dancause, cf..	2	0	0	0	0
Munsen, p....	3	1	2	6	0
Totals.......	26	4	24	16	5

Empire.	AB.	H.	PO.	A.	E
Dixon, ss.....	4	1	2	0	1
Moore, c......	5	2	16	4	0
E. Fluh'ty, lf.	5	1	1	0	0
Markley, 2b ..	2	1	0	1	1
Bell, 1b........	4	3	5	0	0
Bryan, cf.	3	2	2	0	0
Lewis, p.......	4	1	1	1	0
Toone, 3b. ...	4	0	1	1	1
S. Fluh'ty, rf..	4	1	0	0	0
Totals........	35	12	28	7	3

Marines.................	0	0	0	1	0	0	0	1	0—2
Empire..................	3	0	1	0	3	0	1	1	x—9

Runs—Marines: Scarff, Dancause; Empire: Dixon, Moore, E. Fluharty, Markley (2), Bell (2), Bryan, S. Fluharty. Runs earned—Empire, 4. Two base hits—Maguire, Moore, Bell (2). Sacrifice hits—Maguire, Scarff (2), Markley, Bryan. Sacrifice fly—Silke. Stolen bases—Moore, E. Fluharty (2), Markley (2), Bell, Bryan (2), Toone. Bases on balls—Munsen, 1; Lewis, 2. Struck out—By Munsen, 5; by Lewis, 15. Hit by pitcher—By Munsen, 1. Left on bases—Marines, 3; Empire, 6. Umpire—Foster. Time of game—1.55. Scorer—L. P. Worrall.

Gorgona.	AB.	H.	PO.	A.	E
Bath, ss	5	4	4	0	2
J. Ridge, 2b...	3	1	4	2	0
Barney, c, p..	2	1	2	3	0
Wright, 1b....	3	1	6	0	0
Calvert, 3b....	4	0	1	2	0
Culbertson lf.	4	0	1	0	1
O'Day, cf.....	3	1	0	0	0
A. Ridge, rf...	4	2	0	1	0
Bailey, p, c....	3	0	2	3	0
Totals	31	10	20*	11	3

Ancon.	AB.	H.	PO.	A.	E
Snyder, 2b....	4	3	0	0	0
L. Dren'n, 1b, rf	3	0	7	0	0
R. Drennan, ss	4	1	1	2	1
Smith, c......	3	1	5	0	0
Pearman, 3b..	4	0	0	1	1
Hunter, cf....	1	0	2	0	0
Keller, lf......	3	2	0	0	1
Frampton, rf1b	2	0	4	0	0
Wrightson, p..	3	0	1	7	1
Totals.......	27	7	20†	10	4

*Frampton out for trying to bunt 3d strike.

†J. Ridge out for not touching 1st base in 7th.

Gorgona.....................	1	0	1	0	2	3	3—10
Ancon.......................	0	0	0	4	1	0	0—5

Runs—Gorgona: Bath (3), J. Ridge, Barney, Calvert, Culbertson, O'Day, A. Ridge (2); Ancon: Snyder, Smith, Hunter, Keller, Wrightson. Runs earned—Gorgona, 3. Sacrifice hits—J. Ridge, Barney, O'Day, Bailey. Sacrifice fly—Wright. Stolen bases—Bath, J. Ridge, Calvert, O'Day, Hunter. Bases on balls—Off Bailey, 2; off Barney, 1; off Wrightson, 2. Struck out—By Bailey, 1; by Wrightson, 2. Hit by pitcher—By Barney—Hunter. Left on bases—Gorgona, 7; Ancon, 6. Umpire—Booth. Time of game—2.10. Scorer—J. K. Munroe.

ATLANTIC LEAGUE.

RESULTS OF GAMES, MAY 29.

Colon, 5; Panama Railroad, 4.
Panama Railroad, 7; Colon, 4.

RESULTS OF GAMES, MAY 30.

Panama Railroad, 11; Colon, 1.
Com.-Subsistence, 5; Civil Administration, 2.

STANDING OF CLUBS.

	P.	W.	L.	Pc.
Com-Sub...	15	12	3	.800
P. R. R....	14	7	7	.500
Colon......	16	6	10	.375
Civ. Adm..	15	5	10	.333

SCHEDULE FOR JUNE 5.

Colon vs. Civil Administration.

GAMES PLAYED MAY 29.

Colon.	AB.	H.	PO.	A.	E
Stevens, 1b....	3	0	8	0	0
Dockery, 3b..	3	0	0	3	0
C. Herring, c.	2	0	10	2	1
Cleary, 2b....	3	1	0	0	2
Weber, ss.. ..	3	2	1	0	0
Hope, rf......	3	2	0	1	0
Murry, lf.....	0	0	0	0	0
McGinnis, cf.	2	1	1	0	1
Goree, p......	3	0	1	4	0
Totals	22	6	21	10	4

P. R. R.	AB.	H.	PO.	A.	E
Lyons, 3b.....	3	1	1	0	1
Heberling, c..	3	1	8	4	0
G. Herring, ss	4	1	3	2	0
Daugherty, 2b	4	0	0	2	0
Cushing, 1b..	2	0	5	0	0
Hiller, lf......	3	0	0	0	0
Osborne, cf...	3	2	1	0	0
Clendinen, rf.	3	1	0	0	0
Willis, p......	2	0	0	3	2
*Davis........	1	1	0	0	0
Totals	28	4	18	11	3

*Batted for Willis in the seventh.

Colon...........................	0	2	2	1	0	0	x—5
Panama Railroad..............	0	2	1	0	0	1	0—4

Runs—Colon: Cleary, Weber, Murry, McGinnis (2); P. R. R.: Lyons, Daugherty, Cushing, Osborne. Earned runs—Colon, 3; P. R. R., 1. Three base hit—Clendinen. Home runs—McGinnis, Weber. First base on balls—Off Willis, 3. Left on bases—Colon, 5; P. R R., 6. First base on errors—Colon, 2. P. R. R., 2. Struck out—By Willis, 7; by Goree, 7. Hit by pitcher—Murry, McGinnis, Cushing, Lyons. Stolen bases—Heberling, Herring, Daugherty, Hope (2.) Sacrifice hits—Stevens, Heberling. Umpire—Durand. Scorer—Rennard. Time—1.35.

Colon.	AB.	H.	PO.	A.	E
Stevens, 1b...	2	0	4	0	1
Dockery, 3b..	3	1	4	0	1
C. Herring, c.	3	1	8	2	0
Cleary, 2b ...	4	0	0	1	0
Weber, ss.....	4	1	1	4	1
Hope, rf.....	3	0	0	0	0
Murry, lf.....	3	0	1	1	0
McGinnis, cf..	1	0	0	0	0
Goree, p......	2	0	0	0	0
Totals	25	3	18	8	3

P. R. R.	AB.	H.	PO.	A.	E
Lyons, 3b.....	4	2	1	0	1
Heberling, c..	1	0	7	0	0
G. Herring, ss	3	2	0	1	1
Daugherty, 2b	3	1	4	2	0
Cushing, 1b..	3	0	6	0	1
Hiller, lf......	3	1	1	0	0
Osborne, cf...	3	0	1	0	0
Clendinen, rf.	2	0	1	0	0
Davis, p......	3	1	0	4	1
Totals.......	25	7	21	7	4

Colon...........................	0	0	0	0	0	3	1—4
Panama Railroad..............	1	0	0	0	0	6	x—7

Runs—Colon: Dockery, Herring, Weber, Hope; P. R. R.: Lyons, Heberling (2), Herring, Daugherty, Hiller, Davis. Earned runs—P. R. R., 3. Bases on balls -Off Goree, 2; off Davis, 4. Left on bases—Colon, 7; P. R. R., 3. First base on errors—P. R. R., 3; Colon, 3. Two base hits—Herring (2), Hiller, Herring. Struck out—By Davis, 7; by Goree, 6. Passed balls—Heberling (3). Hit by pitcher—Dockery, Heberling, McGinnis. Sacrifice hit—Stevens. Stolen bases—Heberling, Dockery, Weber. Umpire—Durand. Scorer—Rennard. Time—1.30.

GAMES PLAYED MAY 30.

P. R. R.	AB.	H.	PO.	A.	E
Daugherty, 2b	4	2	0	1	0
Heberling, c..	2	1	6	1	0
G. Herring, ss.	3	3	1	0	0
Cushing, 1b...	3	2	5	0	0
Osborne, cf...	2	1	1	0	0
Gamble, 3b...	3	0	0	0	2
Davis, p......	3	1	2	2	0
McElroy, rf...	2	1	0	0	0
Hiller, lf......	2	1	0	0	0
Totals	24	12	15	4	2

Colon.	AB.	H.	PO.	A.	E
Stevens, 1b, p.	2	0	0	0	1
Weber, ss.....	3	1	1	1	1
C. Herring, p, c	3	2	0	0	2
Cleary, 2b....	3	0	1	1	0
Hope, c, 1b...	3	0	9	1	0
Dockery, 3b..	1	0	1	1	1
Murry, cf.....	2	0	0	1	0
Brady, rf......	0	0	0	0	0
Williams, lf...	1	0	0	0	1
Totals.......	18	3	12	5	6

Game called in fifth inning.

Colon.............................	0	0	0	1	0—1
Panama Railroad................	4	2	5	0	x—11

Runs—P. R. R.: Daugherty (3), Heberling, Herring (2), Cushing, Osborne, Davis, McElroy, Hiller; Colon: Dockery. Runs earned—P. R. R., 4. Two base hits—G. Herring (2), C. Herring, Cushing, Hiller. Home run—Cushing. First base on balls—Off Herring, 3; off Stevens, 1; off Davis, 4. Struck out—By Herring, 6; by Davis, 6. Hits—Off Herring 11 in three innings; off Stevens 1 in one inning. Left on bases—Colon, 7. P. R. R., 5. First base on errors—Colon, 1, P. R. R., 2. Wild pitch—Herring. Hit by pitcher—Brady, Stolen bases—Daugherty, Davis, McElroy, Brady, Dockery (2). Umpire—Durand. Scorer—Rennard. Time—1.25.

C. A.	AB.	H.	PO.	A.	E
Edwards, 1b..	4	1	6	0	0
Ferrar, cf.....	3	0	0	0	0
Herring, c....	3	0	3	2	2
Fleishman, 3b.	3	2	6	3	1
Daugherty, 2b	3	1	1	2	1
Freel, lf.......	3	0	2	0	1
McKeever, ss.	2	1	3	3	0
Morrel, p.....	3	0	0	2	0
Roos, rf.......	3	0	0	0	0
Totals	27	5	18	12	5

C.-S.	R.	H.	PO.	A.	E
Sullivan, 3b...	4	2	2	1	0
Lindberg, lf..	3	2	0	0	0
Curtis, ss.....	1	0	2	1	2
Muggleton, 2b	3	1	0	1	0
McCusty, c...	3	1	7	2	0
Mossher, rf...	2	0	0	0	0
McGinnis, cf..	3	1	1	0	1
Payne, 1b.....	3	0	8	0	0
Horrigan, p..	3	0	1	3	0
Totals.......	25	7	21	8	3

Civil Administration..........	0	0	2	0	0	0	0—2
Commissary-Subsistence......	3	1	0	1	0	0	x—5

Runs—C. A.: Edwards, Fleishman; C.-S.: Sullivan, Lindberg (3), Curtis. Run earned—C.-S., 1. Two base hits—Sullivan (2). First base on balls—Off Horrigan, 1; off Morrel, 4. Struck out—By Horrigan, 6; by Morrel, 2. Left on bases—C.-S., 6, C. A., 5. First base on errors—C.-S. 2; C. A. 2. Passed ball—Herring. Stolen bases—Sullivan, Lindberg (2), Edwards, McKeever. Umpire—Durand. Scorer—Rennard. Time—1.20,

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending June 8, 1910, (75th meridian time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A M.	A. M.	P. M.	P. M.
June 2.......	....	4.31	10.41	5 10	11.12
June 3.......	....	5.35	11.45	6.13	....
			P. M.		....
June 4.......	12.18	6.35	12.45	7.11	....
June 5.......	1.20	7.33	1.41	8.05	....
June 6.......	2.17	8.27	2.34	8.58	....
June 7.......	3.08	9.19	3.25	9.48	....
June 8.......	3.58	10.10	4.14	10 35	.. ..

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Supplies for Canal Work.

The following steamers, with supplies for the Isthmian Canal Commission, arrived at the ports of Cristobal and Colon, during the week ending May 28, 1910:

Colon, May 24, from New York, with 43 barrels castings for Gorgona store (Mechanical Division); 5 cases switches and 8 reels wire rope for Atlantic Division; 35 cases castings for Central Division: 35 cases tape fuse for Empire store; 4 cases machinery and 1 crate machinery for Pacific Division; 8 cases miscellaneous supplies for Sanitary Department; 15 crates stoves, 10 barrels tar, 5 barrels glassware, 25 kegs screws, 17 kegs bolts, 143 cases bolts, 100 cases sal soda, 43 pieces switches and frogs, 10 cases varnish, 11 cases steel wrenches, 25 barrels iron pipe, fittings, 300 cases paint, 18 cases toilet paper, 34 cases graphite, 444 cases bolts and nuts, 25 coils rope, 19 coils steel wire, 13 barrels galvanized iron and 55 pieces steel channels for stock; and a miscellaneous cargo consisting of 1,656 packages weighing 251 tons.

Dacre Hill, May 24, from Mobile, with 330,097 feet yellow pine lumber, 769 pieces piling, 18,869 crossties, and 50 lavatories for stock.

Sarnia, May 25, from New York, with 77 cases valves and fittings, 54 cases blasting fuses and 11 barrels sulphite copper for stock.

Atenas, May 26, from New Orleans, with 6 derrick and mast booms, 11 reels wire rope and 12 pieces machinery for Atlantic Division; 176 pieces yellow pine lumber and 6 crates machinery for Pacific Division; 100 steel knuckles for Mechanical Division, 366 tons steel dump car parts for Cristobal shops (for erection); 53,962 feet yellow pine lumber, 548 crossties and 500 cast iron service boxes for stock.

Metapan, May 27, from New York, with 2 cases pumps for Atlantic Division; 1 boiler and fittings for Mechanical Division; 75 barrels coal tar, 2 cases tape and bolts, 20 bags cross-arm pins, 30 crates water closets, 269 pieces steel plates, 2,800 pieces steel bars, 100 bundles steel bars and 200 cases linseed oil for stock.

Cristobal, May 27, from New York, with 59,700 bags cement for Pacific Division; 35,490 barrels cement for Atlantic Division.

The following vessels arrived at and departed from the port of Balboa during the week ending May 28:

Arrivals—May 23, *Ecuador*, from Guayaquil; *Newport*, from San Francisco. May 25, *Huallaga*, from south ports; *Limari*, from south ports.

Departures—May 22, *Trinculo*, to Port Harford. May 23, *Peru*, to south ports. May 25, *City of Para*, to San Francisco; *Manavi*, to Buenaventura and Tumaco.

Launch Service to Taboga.

The steamer *Sanidad* leaves the dredge landing at Balboa at 9 o'clock Tuesday, Thursday and Saturday mornings. On the return trip it arrives at Balboa about 4.30 p. m. in time to make connections for the 5.30 train at Panama.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning May 28.

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (5 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (5 to 8 pounds)	per lb	24
Chops	per lb	26
Cutlets	per lb	26
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	2
Soup	per lb	5
Stew	per lb	9
Corned	per lb., 12, 14,	16
Chuck roast	per lb	13
Pot roast	per lb	15
Rib-roast, second cut (not under 3½ pounds)	per lb	18
Rib-roast, first cut (not under 3 pounds)	per lb	20
Sirloin roast	per lb	21
Rump roast	per lb	21
Porterhouse roast	per lb	21
Steak, Chuck	per lb	14
Round	per lb	15
Rib	per lb	20
Sirloin	per lb	21
Porterhouse	per lb	21
Rump	per lb	21
Tenderloin	per lb	24

MISCELLANEOUS.

Livers—Beef	per lb	†10
Calf	each	60
Half	each	30
Sausage—Pork	per lb	17
Bologna	per lb	14
Frankfurter	per lb	14
Leberwurst	per lb	14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	25
Eggs, fresh	dozen	28
Oysters, in 1-quart kegs	keg	55
Shads	each	75
Shad Roes	pair	40

POULTRY AND GAME.

		Price.
Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, large	each	1.50
medium	each	1.30
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese	each	2.50
Pheasants	each 70,	1.00
Partridges	each	50
Grouse	each	85

CURED AND PICKLED MEATS.

Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Sugar cured	per lb	21
Sugar-cured, sliced	per lb	25
Half, for boiling	per lb	22
Boiled	per lb	28
Hocks	per lb	‡8
Bacon—Breakfast, whole piece	per lb	28
Breakfast, sliced	per lb	29
Beef, salt, family	per lb	12
Pork, salt, family	per lb	18
Ox tongues	each	80
Pigs' feet	per lb	10
tongues	per lb	16
Mutton, mess	per lb	7

DAIRY PRODUCTS.

Butter—Creamery special	per lb	40
Cheese—Roquefort	per lb	38
Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	26
Edam	each	1.00
Neufchatel	each	6
Gouda	per lb	34
Milk, Briarcliff	bottle	**25

VEGETABLES AND FRUITS.

Celery	per hd	8
Lettuce	per hd	8, 12, 16
Cucumbers	per lb	*5
Potatoes, white, old	per lb	3
white, new	per lb	*3
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	5
Tomatoes	per lb	8
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	3
Cabbage, new	per lb	*4
Rhubarb	per lb	7
Spinach	per lb	†10
Peas, green	per lb	15
Lemons	dozen	24
Oranges, California	dozen	30
Apples	per lb	5
Tangerines	each	2
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4
Pineapples	each	18

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

SOCIAL LIFE OF THE ZONE.

The next regular meeting of the Woman's Guild of St. Luke's Church, Ancon, will be held at the residence of Mrs. S. T. Darling, Ancon Hospital grounds, on Tuesday afternoon, June 7, at 3.30 o'clock. On Tuesday, June 21, the Guild will hold the fiftieth meeting since its organization. These meetings have been held semimonthly with only one break in the schedule. The day will be observed by an appropriate celebration. The credence table, one of the gifts of the Guild at Easter, has arrived and has been placed in the chancel at St. Luke's Church.

Paradise Lodge No. 6, Knights of Pythias, held a prize fancy dress ball at the lodge hall, Paraiso, on Saturday evening, May 28. Invitations were issued to members and their friends residing in the villages from Pedro Miguel to Las Cascadas, and special trains were provided from these stations for the accommodation of the guests. Four prizes were awarded for original costumes, these being won by Mrs. Charles Connell, and Mrs. Frank Conkermarsh and Messrs. Dorsey and Lewis. There were 200 present. This was the semiannual entertainment held by the lodge, the first for the year having been held in January.

The net receipts from the Transportation Men's ball at the Hotel Tivoli on the night of April 30 were $2,880.50, and this amount has been sent to the Home for Superannuated and Disabled Railway Men of America, at Highland Park, Ill.

Brotherhood of Locomotive Engineers.

Division No. 756, B. of L. E., meets on the first Sunday in June at Paraiso; third Sunday at Las Cascadas.

At a recent meeting of Canal Zone Subdivision No. 756, resolutions of sympathy were adopted on the death of Mrs. George W. Healey.

Found—On Sunday, May 29 in Ancon, an umbrella. Owner can redeem it by calling on the paymaster at Ancon.

PANAMA RAILROAD COMPANY.

PASSENGER TRAIN TIME TABLE No. 6—IN EFFECT MAY 22, 1910.

SOUTHWARD.								Miles from Colon.	STATIONS.	NORTHWARD.									
SUNDAYS AND HOLIDAYS.					WEEK DAYS.					WEEK DAYS.				SUNDAYS AND HOLIDAYS.					
29	27	25	23	21	7	5	3			2	4	6	8	20	22	24	26	28	30
P. M.	P. M.	P. M.	A. M.	A. M.	P. M.	A. M.	A. M.			A. M.	P. M.	P. M.	P. M.	A. M.	P. M.	P. M.	P. M.	P. M.	P. M.
7.00	4.00	1.00	10.00	6.45	4.35	10.30	5.15	0.00	Leave. †Colon. Arrive.	9.05	1.15	3.50	7.45	9.00	12.15	3.15	6.15	9.15	11.55
7.05	4.05	1.05	10.05	f 6.50	4.40	f 10.37	5.20	1.77	†Mount Hope	8.58	f 1.07	f 3.42	7.39	8.53	f 12.08	f 3.08	f 6.08	f 9.08	f 11.48
f 7.10	f 4.10	f 1.10	f 10.10	f 6.55	f 4.44	f 10.42	f 5.25	4.37	Mindi	f 8.51	f 1.01	f 3.36	f 7.31	f 8.47	f 12.02	......	f 6.02	f 9.02	f 11.42
7.18	4.18	1.18	10.18	7.03	4.52	10.50	5.33	6.79	†Gatun	8.43	12.54	3.30	7.22	8.40	P. M. 11.55	2.55	5.55	8.55	11.35
f 7.27	f 4.27	f 1.27	f 10.27	f 7.12	f 5.01	f 11.00	.....	10.41	Lion Hill	......	f 12.42	......	......	f 8.29	f 11.44	f 2.44	f 5.44	f 8.44	f 11.24
f 7.33	f 4.33	f 1.33	f 10.33	f 7.18	f 5.06	f 11.06	f 5.49	12.48	Ahorca Lagarto	......	f 12.35	....	f 7.07	f 8.23	f 11.38	f 2.38	f 5.38	f 8.38	f 11.18
7.40	4.40	1.40	10.40	7.25	5.13	11.13	5.56	15.26	†Bohio	......	12.29	3.05	7.01	8 18	11.33	2.33	5.33	8.33	11.13
7.47	4.47	1.47	10.47	7.32	5.22	11.22	f 6.05	18 51	Frijoles	8.10	f 12.21	f 2.58	6.54	8.10	f 11.25	f 2.25	f 5.25	f 8.25	f 11.05
7.55	4.55	1.55	10.55	7.40	5.31	11.31	6.12	21.37	†Tabernilla	8.03	12.15	2.50	6.48	8.04	11.19	2.19	5.19	8.19	10.59
8.00	5.00	2.00	11.00	7.45	5.37	11.37	6.18	23.30	†San Pablo	7.58	12.08	2.46	6.43	7.57	f 11.12	2.12	5.12	8.12	10.52
f 8.02	f 5.02	f 2.02	....	f 7.47	f 5.40	f 11.40	.....	24.31	Bailamonos	......	f 12.03	......	f 6.40	f 7.53	f 11.08	f 2.08	f 5.08	f 8.08	f 10.48
8.08	5.08	2.08	f 11.08	7.51	5.45	11.45	6.25	25.74	†Mamei	7.50	12.01	......	6.37	7.49	11.04	2.04	5.04	8.04	10.44
8.13	5.13	2.13	11.13	7.58	5.53	11.53	6.33	28.27	†Gorgona	7.41	P. M. 11.53	2.32	6.32	7.42	10.57	1.57	4.57	7.57	10.37
8.18	5.18	2.18	11.18	8.03	5.58	11.58	6 37	29.68	†Matachin	7.36	11.48	f 2.27	6.27	7.37	10.52	1.52	4.52	f 7.52	f 10.32
8.22	5.22	2.22	11.22	8.08	6.03	P. M. 12.03	6.42	31.01	†Bas Obispo	7.32	11.43	2.23	6.23	7.33	10.48	1.48	4.48	f 7.48	f 10.28
8.29	5.29	2.29	11.29	8.16	6.10	12.10	6.49	32.62	†Las Cascadas	7.25	11.35	2.16	6.17	7.25	10.40	1.40	4.40	7.40	10.20
8.34	5.34	2.34	11.34	8.21	6.17	12.17	6.56	34.91	†Empire	7.17	11.29	2.10	6.12	7.21	10.36	1.36	4.36	7.36	10.16
8.39	5.39	2.39	11.39	8.26	6.22	12.22	7.03	35.90	†Culebra	7.10	11.24	2.05	6.08	7.15	10.30	1.30	4.30	7.30	10.10
8.47	5.47	2.47	11.47	8.35	6.32	12.32	7.10	39.71	Paraiso	6.54	11.11	1.50	5.54	f 7.06	f 10 21	1.21	4.21	f 7.21	10.01
8.51	5.51	2.51	11.51	8.40	6.37	12 38	7.13	40.37	†Pedro Miguel	6.50	11.07	1.48	5.50	7.03	10.18	1.18	4.18	7.18	9.58
8.56	5.56	2.56	11.56	8.45	6.42	12.43	7.17	41.73	†Miraflores	6.46	11.02	f 1.44	5.46	7.00	10.15	1.15	4.15	f 7.15	f 9.55
9.04	6.04	3.04	P. M. 12.04	8.51	6.50	12.50	7.21	44.31	†Corozal	6.39	10.54	1.38	5.38	6.53	10.08	1.08	4.08	7.08	9.48
f 9.06	f 6.06	f 3.06	f 12.06	f 8.53	......	f 12.52	f 7.23	......	Camp Diablo	f 6.35	f 10.50	f 1.34	f 5.35	f 6.49	f 10.04	f 1.04	f 4.04	f 7.04	f 9.44
9.15	6.15	3.15	12.15	9.00	7.00	1.00	7.30	47.14	Arrive. †Panama. Leave.	6.30	10.45	1.30	5.30	6.45	10.00	1.00	4.00	7.00	9.40
P. M.	P. M.	P. M.	P. M.	A. M.	P. M.	P. M.	A. M.			A. M.	A. M.	P. M.	P. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.
29	27	25	23	21	7	5	3		†Telegraph station. f Flag station.	2	4	6	8	20	22	24	26	28	30

CANAL DIRECTORY.

ISTHMIAN CANAL COMMISSION.

Col. Geo. W. Goethals, U. S. A., Chairman, Culebra.
Lieut.-Col. H. F. Hodges, U. S. A., Culebra.
Lieut.-Col. D. D. Gaillard, U. S. A., Empire.
Lieut.-Col. Wm. L. Sibert, U. S. A., Gatun.
Civil Engineer H. H. Rousseau, U. S. N., Culebra.
Col. W. C. Gorgas, U. S. A., Ancon.
Mr. Maurice H. Thatcher, Ancon.
Mr. Joseph Bucklin Bishop,
Secretary, Ancon.

DEPARTMENTS.

Construction and Engineering.

Headquarters, Culebra.

Col. Geo. W. Goethals, Chairman and Chief Engineer.
C. A. McIlvaine, Chief Clerk.
William Howard May, Secretary to the Chairman.
John K. Baxter, Assistant Chief Clerk.
H. S. Farish, Surveying Officer.
Caleb M. Saville, Assistant Engineer.

Lieut.-Col. H. F. Hodges, Assistant Chief Engineer.
C. O. Carlson, Secretary.
Edward Schildhauer, Electrical and Mechanical Engineer.
Henry Goldmark, L. D. Cornish, H. F. Tucker, T. B. Mönniche, Edward C. Sherman, Designing Engineers.

Civil Engineer H. H. Rousseau, Assistant to the Chief Engineer.
J. C. Parsons, Secretary.
A. B. Nichols, Office Engineer.
James G. Craig, Senior Traveling Engineer.
Arthur C. Stone, Traveling Engineer.
W. O. Johnson, Inspector of Shops.

Central Division.

Headquarters, Empire.

Lieut.-Col. D. D. Gaillard, Division Engineer.
A. E. Bronk, Chief Clerk.
Geo. A. Greenslade, Gen. Supt. Construction.
A. S. Zinn, Resident Engineer.
Mark W. Tenny, Assistant Engineer.
W. L. Thompson, Assistant Engineer.
J. W. Sneed, Superintendent Construction.
J. M. Hagan, Superintendent Construction.
Joseph Little, Superintendent Construction.
W. T. Reynolds, Superintendent Construction.
A. Sessions, Superintendent Transportation.
William H. Bates, Supt. Steam Shovel Repairs.
E. E. Rigney, Superintendent Air and Water.
Dan E. Wright, Supt. Municipal Work.

Atlantic Division.

Headquarters, Gatun.

Lieut.-Col. Wm. L. Sibert, Division Engineer.
Maj. Chester Harding, U. S. A., Assistant Division Engineer.
R. M. Sands, Chief Clerk.
Maj. Edgar Jadwin, U. S. A., Resident Engineer.
Maj. J. P. Jervey, U. S. A., Resident Engineer.
Maj. G. M. Hoffman, U. S. A., Assistant Engineer.
Capt. Horton W. Stickle, U. S. A., Assistant Engineer.
Geo. M. Wells, Office Engineer.

Pacific Division.

Headquarters, Corozal.

S. B. Williamson, Division Engineer.
John M. G. Watt, Assistant Division Engineer.
J. C. Keller, Chief Clerk.
W. G. Comber, Resident Engineer.
W. B. Corse, Resident Engineer.
H. O. Cole, Assistant Engineer.
Frank Cotton, Assistant Engineer.
James Macfarlane, Supt. of Dredging.

Gorgona Shops.

Headquarters, Gorgona.

A. L. Robinson, Superintendent Mechanical Division.
William Taylor, Chief Clerk.
J. H. Flynn, Mechanical Engineer.

Subsistence.

Headquarters, Cristobal.

Maj. Eugene T. Wilson, U. S. A., Subsistence Officer.
Lieut. Frank O. Whitlock, U. S. A., Assistant Subsistence Officer.
W. F Shipley, Chief Clerk.
John Burke, Manager of Commissaries.

Quartermaster's.

Headquarters, Culebra.

Lieut.-Col. C. A. Devol, U. S. A., Chief Quartermaster.
Lieut. R. E. Wood, U. S. A., Assistant Chief Quartermaster.
Lieut. Walter D. Smith, U. S. A., Constructing Quartermaster.
D. H. Beaman, Acting Chief Clerk.
W. H. Macfarlane, Inspector of Construction and Repairs.
C. C. McColley, Inspector.
Capt. C. Nixon, U. S. A., Depot Quartermaster, Mount Hope.
C. L. Parker, Assistant Depot Quartermaster, Mount Hope.
Chas. R. Bryon, Storekeeper, Gatun.
C. L. Prentiss, Storekeeper, Gorgona.
F. W. Miracle, Storekeeper, Empire.
H. D. Biggle, Acting Storekeeper, Miraflores.
R. K. Morris, Storekeeper, Balboa.

District Quartermasters.

B. C. Poole, Ancon and Balboa.
A. R. Bennett, Corozal.
Harry Dundas, (acting), Pedro Miguel and Paraiso.
H. F. Sedwick, Culebra.
J. D. Eason, (acting), Empire.
J. M. King, Las Cascadas.
C. E. Heisey, Bas Obispo.
S. D. Roper, (acting), Gorgona.
J. H. Humphrey, San Pablo, Tabernilla and Bohio.
R. M. Gamble, Gatun.
F. W. Schutte, (acting) Cristobal.
M. D. Smith, Porto Bello.

Civil Administration.

Headquarters, Ancon.

Maurice H. Thatcher, Head of the Department.
G. A. Ninas, Chief Clerk.

Tom M. Cooke, Chief, Division of Posts, Customs and Revenues, Ancon.
Arthur McGown, Deputy Collector, Ancon.
Jno. L. Storla, Deputy Collector, Cristobal.
Frank Feuille, Counsel and Chief Attorney, Ancon.
W. K. Jackson, Prosecuting Attorney, Ancon.
J. P. Fyffe, Chief of Police, Ancon.
Lieut. Chas. W. Barber, U. S. A., Assistant Chief of Police, Ancon.
C. E. Weidman, Fire Chief, Cristobal.
Geo. H. Ruggles, Supt of Public Works, Ancon.
J. J. Reidy, Acting Supt. Public Works, Ancon.
F. A. Gause, Superintendent of Schools, Ancon.
Edgar P. Beck, Treasurer of Canal Zone, Empire.
W. G. Comber, Chairman; James Macfarlane, Louis Untermann, Board of Local Inspectors.

Canal Zone Judiciary.

Headquarters, Ancon.

Supreme Court—H. A. Gudger, Chief Justice.
Walter Emery, Clerk, Ancon.
Lorin C. Collins, Associate Justice, Cristobal.
Wesley M. Owen, Associate Justice, Empire.
Circuit Court, First Circuit—H. A. Gudger, Judge, Ancon.
Walter Emery, Clerk.
Circuit Court, Second Circuit—Wesley M. Owen, Judge, Empire.
Elbert M. Goolsby, Clerk.
Circuit Court, Third Circuit—Lorin C. Collins, Judge, Cristobal.
Nelson R. Johnson, Clerk.
M. C. Rerdell, Senior District Judge, Cristobal.
S. E. Blackburn, District Judge, Ancon.
Edgar S. Garrison, District Judge, Empire.
J. B. March, District Judge, Gorgona.
Thomas E. Brown, Jr., District Judge, Cristobal.

Sanitation.

Headquarters, Ancon.

Col. W. C. Gorgas, Chief Sanitary Officer.
Lieut.-Col. John L. Phillips, U. S. A., Assistant Chief Sanitary Officer.
Maj. Robert E. Noble U. S. A., General Inspector.
Harry E. Bovay, Chief Clerk.

Lieut.-Col. Charles F. Mason, U. S. A., Superintendent Ancon Hospital, Ancon.
Surgeon Wm. H. Bell, U. S. N., Superintendent Colon Hospital, Cristobal.
Surgeon J. C. Perry, P. H. and M. H. S., Chief Quarantine Officer, Ancon, and Health Officer, Panama.
Surgeon Claude C. Pierce, P. H. and M. H. S. Quarantine Officer, Colon.
Dr. Fleetwood Gruver, P. H. and M. H. S., Quarantine Officer, Panama.
Joseph A. LePrince, Chief Sanitary Inspector, Ancon.
Dr. M. E. Connor, Health Officer, Colon.

Disbursements.

Headquarters, Empire.

Edward J. Williams, Disbursing Officer.
Wm. M. Wood. Assistant Disbursing Officer.

Examination of Accounts.

Headquarters, Empire.

W. W. Warwick, Examiner of Accounts.
T. L. Clear, Assistant Examiner of Accounts.

Purchasing Department.

Headquarters, Washington, D. C.

Capt. F. C. Boggs, U. S. A., General Purchasing Officer.
C. E. Dole, Chief Clerk.

Capt. Courtland Nixon, Purchasing Agent on the Isthmus.
Maj. Wendell L. Simpson, U. S. A., Purchasing Agent, 24 State Street, New York City.
Lieut-Col. Geo. B. Davis, U. S. A., Assistant Purchasing Agent, Custom House, New Orleans, La.

Panama Railroad Company.

Headquarters, Colon.
(General offices, 24 State Street, New York,)

J. A. Smith, General Superintendent, Colon.
Lieut. Frederick Mears, U. S. A., Chief Engineer.
A. K. Stone, Master of Transportation.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Panama	P. R. R.	Tuesday	May 31
Allianca	P. R. R.	Monday	June 6
Colon	P. R. R.	Monday	June 13
Advance	P. R. R.	Saturday	June 18
Panama	P. R. R.	Friday	June 24
Allianca	P. R. R.	Thursday	June 30

CRISTOBAL TO NEW YORK.

Cristobal	P. R. R.	Sunday	June 5
Advance	P. R. R.	Monday	June 6
Panama	P. R. R.	Sunday	June 12
Allianca	P. R. R.	Saturday	June 18
Colon	P. R. R.	Saturday	June 25
Advance	P. R. R.	Thursday	June 30
Panama	P. R. R.	Wednesday	July 6
Allianca	P. R. R.	Tuesday	July 12

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

NEW YORK TO COLON.

Oruba	R.-M.	Saturday	May 29
Almirante	U. F. C.	Thursday	June 2
Prinz Aug. Wilhelm	H.-A	Saturday	June 4
Santa Marta	U. F. C.	Thursday	June 9
Orizaba	R.-M.	Saturday	June 11
Metapan	U. F. C.	Thursday	June 16
Prinz Joachim	H.-A	Saturday	June 18
Zacapa	U. F. C.	Thursday	June 23
Magdalena	R.-M.	Saturday	June 25

COLON TO NEW YORK.

Trent	R.-M.	Wednesday	June 1
Metapan	U. F. C.	Friday	June 3
Prinz Joachim	H.-A	Tuesday	June 7
Zacapa	U. F. C.	Friday	June 10
Magdalena	R.-M.	Wednesday	June 15
Almirante	U. F. C.	Friday	June 17
Prinz Aug. Wilhelm	H.-A	Tuesday	June 21
Santa Marta	U. F. C.	Friday	June 24
Clyde	R.-M.	Wednesday	June 29

NEW ORLEANS TO COLON.

Turrialba	U.F.C.	Saturday	May 28
Abangarez	U.F.C.	Saturday	June 4
Atenas	U.F.C.	Saturday	June 11

COLON TO NEW ORLEANS.

Atenas	U.F.C.	Thursday	June 2
Turrialba	U.F.C.	Thursday	June 9
Abangarez	U.F.C.	Thursday	June 16

COLON TO BARBADOS, CALLING AT TRINIDAD.

Orotava	R.-M.	Tuesday	June 21
Magdalena	R.-M.	Tuesday	July 5

The next sailings of the Leyland Line will be as follows: *Colonian* June 11, and *Californian* June 20, for New Orleans, via Kingston, Ja.

Hamburg-American steamers leave for New York at 10 a. m., and for Port Limon every Wednesday at 2 p. m.

Royal Mail steamers leave for New York early in the morning and passengers should be on board the night before.

United Fruit Company ships for New Orleans leave at 3 p. m., and for New York at 10 a. m.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, JUNE 8, 1910. No. 41.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

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Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer

Canal Work in May.

The grand total of Canal excavation in May was 2,477,618 cubic yards, of which 2,414,917 cubic yards were charged to "work excavation" and 62,701 cubic yards to "plant." The dry excavation amounted to 1,507,654 cubic yards and was principally by steam shovels. The dredges removed 969,964 cubic yards in addition to the amount pumped into Gatun Dam by suction dredges. The progress on the locks at Gatun and Pedro Miguel is referred to elsewhere in this issue.

In the Atlantic Division, the total excavation was 587,816 cubic yards. Of this total, 102,361 cubic yards were dry excavation and the remainder was removed by the dredges in the Atlantic entrance.

The total excavation in the Central Division was 1,352,314 cubic yards, all but 4,061 cubic yards of which was chargeable to work excavation.

In the Pacific Division, the total excavation was 537,488 cubic yards, all but 52,979 cubic yards of which was taken out by dredges at work in the Pacific entrance.

A detailed statement of work in the three divisions follows:

ATLANTIC DIVISION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, Dam and Spillway..................	82,958	19,403	102,361
Mindi....................	....	....	....
Total................	82,958	19,403	102,361
Wet excavation—			
Atlantic entrance	447,578	37,877	485,455
Locks, Dam and Spillway................	....	....	....
Total................	447,578	37,877	485,455
Total wet and dry excavation.........	530,536	57,280	587,816
CENTRAL DIVISION.			
All dry excavation—			
Culebra Cut............	1,099,279	....	1,099,279
Chagres section.........	248,974	4,061	253,035
Obispo Diversion......	....	....	....
Total	1,348,253	4,061	1,352,314
PACIFIC DIVISION.			
Dry excavation—			
Locks, Dams and Spillways..................	30,655	1,360	32,015
Diversions............	....	....	....
Prism, south of Pedro Miguel Locks........	20,964	....	20,964
Total................	51,619	1,360	52,979
Wet excavation—			
Pacific entrance	484,509	....	484,509
Miraflores Locks......	....	....	....
Diversions............	....	....	....
Total................	484,509	....	484,509
Total wet and dry excavation.........	536,128	1,360	537,488
TOTAL CANAL EXCAVATION.			
Dry excavation	1,482,830	24,824	1,507,654
Wet excavation	932,087	37,877	969,964
Total................	2,414,917	62,701	2,477,618

Mean rainfall along Canal (eleven stations) 11.23 inches.

By "Work" Excavation is meant excavation actually made for one of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc.; that is, it represents material taken from the area to be occupied by the Canal, and constitutes excavation useful for the completed Canal.

By "Plant" Excavation is meant excavation outside of any of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc. It includes material necessary to be excavated for construction purposes only and is chargeable against the particular plant item for which it is performed, such as Prism, Diversions, Locks, etc.

DAM AND LOCK CONSTRUCTION.

MATERIAL.	Atlantic.	Pacific.	Total.
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Fill placed in dams....	453,558	30,052	483,610
Concrete laid in locks.	74,273	29,603	103,876
Concrete laid in dams and spillways.......	3,167	....	3,167

Subsistence on Floating Equipment.

Effective June 1, 1910, the Acting Chairman and Chief Engineer directed that, subject to such arrangements in regard to deliveries as may be agreeable to the Acting Subsistence Officer, subsistence supplies furnished the floating equipment of the Atlantic and Pacific Divisions shall receive the same discount as is allowed by the Commissary Department to other departments purchasing wholesale. At present, a six per cent discount is allowed by the Commissary Department on subsistence supplies furnished to the Subsistence Department, the Department of Sanitation and the Washington Hotel, but it has not heretofore applied to the subsistence supplies purchased from the Commissary by the Canal Commission for feeding the men employed on its floating equipment. As deliveries will be made in the same general manner as to departments already enjoying the discount, there will be no appreciable increased expense to the Commissary Department in making deliveries of subsistence supplies for floating equipment as compared with making deliveries to the other departments already enjoying the discount. It is expected that the food furnished the men afloat shall not appreciably vary in quantity or quality from that furnished the employes ashore. Hereafter, a monthly statement will be forwarded to the Chairman's office showing the total cost of subsistence supplies charged to each different piece of floating equipment during the month.

Recovery of Sunken Lighter.

It has been decided to raise Lighter C, a coal barge belonging to the Panama Railroad Company, which sank in seven fathoms of water in Flamenco Bay, close to Perico Island, during the month of March in the present year. It is believed the value of the recovered lighter will justify the cost of raising it. The work will be accomplished by the forces of the Pacific Division.

The Zone Markets.

About 63 per cent of the space in the Zone markets was rented according to the April report of operations, and $393.15 out of a possible $623.03 in revenue was derived. One hundred and thirty-five stalls out of 195, and 23 tables out of 76 were taken. The markets at Pedro Miguel, Las Cascadas and Gatun made the best showing with all stalls leased. The markets having the least space rented were Culebra with 38.7 per cent and Cristobal with 15.6 per cent. The proximity of the commissary at Cristobal and the public market in Colon affects the business at the Cristobal market to a great extent. All of the Zone markets have recently been provided with new 30-inch meat blocks.

Building Improvements.

An addition to the operating ward at Ancon hospital is under construction, and is to be one story in height, 55 feet 6 inches long and 16 feet 6 inches wide. The changes necessitated the removal of the present veranda on the side facing the hill, but the end verandas were left intact which project back far enough to permit the installation of doors opening into the new part. The latter will extend the length of the present building, and will be divided into an operating room 16 by 20 feet in size, three smaller rooms and a lavatory. The floor will be of concrete, and the operating room will be furnished with ample light by means of a 7 by 7 foot skylight in the roof and side wall.

A number of changes have been effected in the interior of the American Legation building in Panama. A private office formerly on the second floor, has been converted into a dining room, and a new stairway has been built from the mezzanine floor to the second floor to facilitate passage from the kitchen to the serving room, the location of which has also been changed. All of the plumbing has been removed from the old serving room and it has been changed into a bedroom. Under the above arrangement, the kitchen, serving room and dining room, which were formerly inconveniently situ-

NOTES OF PROGRESS.

(Continued.)

ated, are now all together. The interior walls and woodwork of the Legation have been redecorated.

Plans have been completed at the office of the Constructing Quartermaster for an addition to the boiler shop at the Cristobal marine shops, which will be 38 by 93 feet in size. It will be fitted throughout with new shafting.

Several old French buildings near the edge of the Cut at Culebra are being torn down. One of these buildings housed the post-office in the early days of American occupation; another, the commissary. Some of the lumber will be used in reconstructing the dwellings of the villagers at Nombre de Dios, which were destroyed by fire a few months ago.

Mixer Record at Pedro Miguel Locks.

One hundred and fifty cubic yards, equivalent to 75 buckets of concrete were handled by one of the placing units of the plant at the Pedro Miguel Locks on Friday, June 3, in one hour, an average of two and one-half cubic yards a minute. Friday's total for this particular crane was 670 cubic yards for the day of eight hours, averaging nearly 84 cubic yards an hour. If the other chamber crane had done equally well, the total product for the two units would have been 1,340 cubic yards, and if all four of the units in the plant were in operation at this rate, the day's total would have been 2,680 cubic yards. On the basis of a 12-hour day the total would have been 4,020 cubic yards. The actual yardage for the two cranes on the above date was 1,008, which is equivalent to 3,024 cubic yards for the four cranes served by four mixers in 12 hours.

The record of concrete laid in the locks, by days of 8 hours, for the week ending June 4 follows:

	Cubic Yards.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
*May 30	....	....	....	....
May 31	936	124	4	1,064
June 1	932	316	38	1,286
June 2	864	34	14	912
June 3	1,008	338	2	1,348
June 4	642	70	3	715
Total	4,382	882	61	5,325
Previously reported	....	....	....	137,775
Grand total	....	....	....	143,100

*Holiday.

Adjustment of Nombre de Dios Claims.

The work of adjusting the claims growing out of the recent fire at Nombre de Dios has been practically concluded by the Prosecuting Attorney's office. The claimants most difficult to deal with were some Chinamen who lost their stock of goods in the fire and who claimed excessive damages. A reasonable basis of settlement has, however, been reached with them.

Better Material for Bridge Repairs.

One of the bridges on the main trail between Gamboa and Cruces in the Canal Zone was recently washed away. In this connection and with reference to bridge repairs of this nature in the Zone, it is believed in view of the short life of untreated pine and similar lumber on the Isthmus as shown by past experience, that repairs to bridges should be made with native hardwoods or creosoted lumber.

Concrete Operations in Gatun Locks.

A total of 16,809 cubic yards of concrete was placed in the Gatun Locks during the five working days of the week ending June 4, an average of 3,362 cubic yards a day, which is the highest daily average reached so far for a period of five days or more. The statement of the work in detail follows:

	Cubic Yards.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
*May 30	....	....	....	....
May 31	2,706	878	35	3,639
June 1	2,708	1,064	71	3,213
June 2	2,160	838	70	3,068
June 3	2,466	732	63	3,261
June 4	2,426	1,036	166	3,628
Total	11,836	4,568	405	16,809
Previously reported	....	....	....	420,652½
Grand total	....	....	....	437,461½

*Holiday.

A total of 887 cubic yards of concrete was placed in the spillway of Gatun Dam during the week.

Porto Bello Crushed Rock Output.

A statement of the work done at the Porto Bello crusher, by days, for the week ending June 4, 1910 follows:

Date.	Hours worked.	Cubic Yards.
May 31	10:05	2,544
June 1	6:10	2,034
June 2	4:05	2,112
June 3	11:15	2,340
June 4	10:55	2,382
Total	42:30	11,412

Catholic Church at East Balboa.

The new Catholic church located on the Balboa road, a short distance west of the commissary at East Balboa, now building, will be 66 feet 8 inches long and 26 feet wide. The design is similar to that of the Catholic chapel in the Ancon Hospital reservation, but the walls will be two feet higher, and the front porch will be a little longer and wider. Better ventilation will also be provided by means of an 18-inch opening extending around the building under the eaves. The church is being constructed from funds raised, with but a single exception, from among the parishioners. The exception was the Bishop of Panama who contributed $250 toward the work. The Canal Commission furnished the lumber at cost, and the site was obtained at a nominal price.

The Rev. Henry Pouget, the priest in charge of the parish, is a native of France, but has spent the greater part of his time in the United States and speaks French, English and Spanish fluently. He was graduated at St. Mary's Seminary, Baltimore, in 1892, afterwards taught at St. Charles' College, Ellicott City, Md., and was subsequently ordained priest there by Archbishop Chapelle. Fifteen years of his priesthood have been spent among the Pueblo Indians at Taos and vicinity, in New Mexico. He came to the Isthmus about eight months ago, and until recently assisted the Rev. Father Volk at Colon. He also holds services at the little native town of Arraijan about once a month.

EXECUTIVE ORDER.

Under authority vested in me by law, it is ordered that so much of Act No. 8 enacted by the Isthmian Canal Commission September 2, 1904, as provides that certain duties be performed by the Executive Secretary, is hereby amended.

The office of Executive Secretary will be abolished on June 1, 1910, and the duties heretofore devolving upon that official will on and after that date be performed by any official of the Department of Civil Administration that may be designated by the proper authority.

J. M. Dickinson,
Secretary of War.

May 24, 1910.

Sand Movement at Balboa.

Thirty-five thousand, two hundred and forty cubic yards of sand were loaded and shipped from the Balboa sand dock during May. The distribution is shown in the following table:

Destination.	No. of Cars.	Cu. Yds.
Atlantic Division	705	14,111
Pacific Division	1,590	18,924
Central Division	56	685
Balboa Shipways	4	50
Quartermaster's Department	6	100
Panama railroad	5	105
Miscellaneous	78	1,265
Total	2,444	35,240

The ladder dredge *Gopher* which has been at Point Chamé almost continuously since the beginning of sand dredging operations there, was brought to the shipways on Monday, May 30, for a number of repairs. Its sides were deeply encrusted with barnacles. The dredge *Mole* will take the *Gopher's* place at Point Chamé while the latter is laid up.

Marines Off for Bluefields.

A detachment of about 200 United States Marines from the Corps stationed at Camp Elliott embarked on the U. S. gunboat *Paducah* at Colon on Wednesday, June 8, for Bluefields, Nicaragua, to assist in maintaining order at that place. A similar detachment left the Isthmus for Bluefields about ten days ago.

Homicide Case Dismissed.

Fernandez Heros, a white Spaniard, who shot and killed a fellow countryman named Santos Sanchez Augustin on May 29, was arraigned before Judge Garrison in the district court at Empire on Wednesday, June 1. Upon hearing the facts in the case which showed that Augustin was intoxicated and was advancing on Heros with a machete at the time, the charge was dismissed on the ground of self-defense and the prisoner set at liberty.

Kindergartens.

In response to the request of the Superintendent of Schools that all parents wishing kindergarten privileges for their children advise him in writing on or before June 1, letters were received from only 18 persons, representing that number of children. The largest number of requests received from any village was five.

Launch Service to Taboga.

The steamer *Sanidad* leaves the dredge landing at Balboa at 9 o'clock Tuesday, Thursday and Saturday mornings. On the return trip it arrives at Balboa about 4.30 p. m. in time to make connections for the 5.30 train at Panama.

THE WORKING FORCE.

Canal and Railroad Forces According to Pay Rolls—Thirteen-Cent Helpers and Laborers.

A statement has been prepared from the pay rolls of the Isthmian Canal Commission and Panama Railroad Company showing the number of persons employed in each service in February, the department or division in which employed, and the class according to method of pay. This statement is probably as accurate as it is possible to obtain, so far as the gold or the white American force is considered, because there are few changes in that force during any month. In case of the silver, or labor and West Indian artisan class, the number is unquestionably too large, because it includes many laborers who left the force in one division and were reemployed in another, and thus their names appear twice on the rolls. During the last week of each month the Quartermaster's Department compiles a statement of the number of employes actually at work on some one day, and the statement as compiled from the pay rolls is therefore compared with this statement, and the actual number of employes is somewhere between these two:

	Pay Rolls.*			Quartermaster's Report.† Force Actually at Work on February 23.		
	Gold.	Silver.	Total.	Gold.	Silver.	Total.
I. C. C..	5,222	33,862	39,084	4,602	25,212	29,814
P. R. R.	1,014	10,646	11,660	‡	‡	7,644
Total.	6,236	44,508	50,744	......	....	37,458

*Includes all names on pay roll.

†Does not include persons on leave with pay, in hospital, sick in quarters and temporarily unemployed.

‡Not segregated into "gold" and "silver" forces.

The statements that follow are based on the pay rolls. They show the total force divided into "gold" and "silver," monthly and hourly, for both the Canal and railroad forces, and the number of each class employed in each of the departments or divisions:

CANAL AND PANAMA RAILROAD FORCES—SUMMARY.

	Gold.		Silver.		Total.
	Monthly.	Hourly	Monthly.	Hourly	
I. C. C..	3,743	1,479	7,819	26,043	39,084
P. R. R.	872	142	1,601	9,045	11,660
Total.	4,615	1,621	9,420	35,088	50,774

CANAL FORCE BY DEPARTMENTS AND DIVISIONS.

Department or Division.	Gold.		Silver.		Total.
	Monthly	Hourly	Monthly	Hourly	
Chairman and Chief Engineer	127	......	50	44	221
Atlantic	860	440	2,366	7,917	11,583
Central	977	132	1,138	9,032	11,279
Pacific	447	225	1,065	5,025	6,762
Mechanical	171	599	183	1,092	2,045
Quartermaster	223	46	1,259	2,516	4,044
Subsistence	68	......	904	3	975
Sanitation	377	3	679	383	1,442
Civil Administration	334	......	160	31	525
Examin. of Accts.	125	......	7	....	132
Disbursing	32	......	8	....	40
Total	3,741	1,445	7,819	26,043	39,048

PANAMA RAILROAD FORCE BY DEPARTMENTS AND DIVISIONS.

Office or Division.	Gold.		Silver.		Total.
	Monthly	Hourly.	Monthly	Hourly.	
General Supt	19	......	13	....	32
Local Auditor	41	......	3	....	44
Cashier	10	......	3	....	13
Material Store	20	......	29	143	192
Stables	1	......	3	3	7
....	4	......	61	....	65
Commissary	218	1	557	323	1,099
Tel. and Tel	39	......	38	195	272
Transportation	147	......	70	312	529
Collecting	60	22	109	1,499	1,690
....	34	......	42	476	552
Mechanical	40	100	48	896	1,084
Engineering	91	16	108	1,299	1,514
Relocation	143	3	435	3,899	4,480
Chief Inspector	5	.....	82	....	87
Total	872	142	1,601	9,045	11,660

LABORERS AT 13 CENTS AN HOUR.

In the study of the forces based on the data summarized above, especial emphasis was placed on determining the status of the laborers and artisans' helpers working at 13 cents an hour. This rate is the maximum paid to unskilled laborers from Panama, Colombia, and other countries in Central and South America, and to Hindoos. West Indian laborers are neither employed at this rate nor promoted to it. Helpers to mechanics are given this rate of pay. The number of men in each department or division receiving this rate of pay, and the character of the work they do, are indicated in the following table:

CANAL FORCE—EMPLOYES AT 13 CENTS AN HOUR.

Classification.	Chief Eng.	Mechanical Division.	Atlantic Division.	Central Division.	Pacific Division.	Sanitation.	Q. M.	Total.
Helpers:								
Blacksmith	..	37	25	26	16	..	..	104
Boilermakers	..	48	17	34	2	..	..	101
Carpenters	..	20	38	....	47	..	..	105
Car repairers	..	128	41	....	1	..	..	170
Caulkers	..	....	....	....	1	..	..	1
Coppersmiths	..	1	....	....	....	..	..	1
Drill runner	17	....	217	268	146	..	..	648
Iron Workers	..	....	....	....	46	..	..	46
Lineman	..	....	5	....	15	..	..	20
Machinist	..	87	114	30	22	..	..	253
Mason	..	....	66	11	147	..	..	224
Moulders	..	27	....	....	....	..	..	27
Pipe-fitters	..	39	38	62	26	..	..	165
Plauing Mill hand	..	37	....	....	....	..	..	37
Sanitation	..	....	....	....	....	2	..	2
Powder	..	....	120	116	46	..	..	282
Wireman	..	24	32	....	4	..	..	60
Total	17	448	713	547	519	2	..	2,246
Crusher feeders	..	....	36	....	....	..	..	36
Laborers	20	2	866	8	903	2	5	1,806
Operator, concrete mixer	..	....	1	....	....	..	..	1
Pitman	..	....	191	177	54	..	..	422
Rigger	..	....	98	....	45	..	..	143
Switch tender	..	2	71	95	13	..	..	181
Total	20	4	1263	280	1015	2	5	2,589

The employes at the 13-cent rate on the Panama railroad force are classified as follows:

Helpers:		Laborer	983
Mechanical	144	Leverman	3
Engineering	1	Pitman	34
Relocation	267	Powderman	92
Commissary	12	Rigger	15
Mason	275	Switchtender	12
Machinist	30	Trainmen	2
Miner	56	Wiremen	1
Pipe-fitter	1		
Drill runner	264	Total	2,192

Hail Storm at Alhajuela.

Hail is reported to have fallen at Alhajuela, the upper Chagres River gaging station, in the afternoon of Friday, May 28, near the end of a heavy rain storm. From noon to 1 o'clock on that date there was 13-100 inch of rainfall; between 1 and 2 o'clock, 12-100 inch, and between 2 and 3 o'clock 2 and 20-100 inches. It was about 2.15 when the falling drops changed to a patter of hail, which continued for 10 or 12 minutes. The pellets were about ⅛ of an inch in diameter and sufficient in quantity on the board walk and doorsteps at the observer's quarters to crush under foot.

A hail storm was reported about two years ago from the neighbourhood of Cucaracha.

Red Cross Aid at Cartago.

LEGATION OF THE UNITED STATES OF AMERICA,
SAN JOSÉ, COSTA RICA, May 22, 1910.

Lieut.-Col. C. A. Devol, Chairman, Canal Zone Chapter, American Red Cross, Etc., Culebra, C. Z.

Sir: In reply to your letter of May 17 instant, relative to the Cartago earthquake sufferers and the aid given them by the American Red Cross, I have the honor to state that I have written Lieut.-Col. Phillips in regard to the disposition made of the $500 sent by your chapter of the Red Cross, enclosing receipt. It was a generous contribution, and the money has been well employed and is highly appreciated.

I instructed the American Consul here to receive the tents and blankets sent from the Canal Zone, to turn them over to the Government, and to get receipts for them. I understand that they are not given but furnished for the present emergency; consequently I cannot distribute them among the people, as I would never be able to get them together again. Mr. Lee, the Consul, has not yet sent me his report. There were slides on the road and their arrival was delayed several days.

The two things most needed are blankets and shelter. I have distributed about 800 blankets and the American Red Cross is sending $2,500 worth of material for temporary houses from New Orleans. There is no more corrugated zinc, used for roofs, in the country.

As to waste of money, etc., I do not think that the contributions sent in have been too generous, nor has the money been squandered. I have heard that the poor frequently sell the blankets and clothes given them for something to drink, but how is one to prevent that? And I have never taken them in the act. I make each one bring me a card, which I destroy, stating that his is a worthy case. But even so, one may be deceived; some people have given such cards to their servants. Any money sent to the President, Don Ricardo Jimenez; to the ex-president, Don Cleto Gonzalez Viguez; to Mr. John Keith, the head of the local charities; to Dr. Duran or Dr. Inksetter, will be wisely employed where it is most needed. And much money will be needed later on; there is enough now, but this is only the beginning.

I am glad to read what you write about the efforts of the Americans on the Isthmus to raise money for the victims of this catastrophe; I have noted no similar attempts here.

I have the honor to be, sir,
Yours very truly,
G. L. MONROE, JR.,
Charge d'Affaires, ad interim.

On Saturday evening, May 28, a chess match between Cristobal and Culebra was played in the Cristobal clubhouse. Each team consisted of seven players. The match was won by Culebra, the score being seven games to six.

RECORD OF CANAL WORK SINCE AMERICAN OCCUPATION.

MONTHLY TOTALS BY CUBIC YARDS OF EXCAVATION AND LOCK AND DAM CONSTRUCTION.

[*All figures are of work useful for the completed Canal.*]

DRY EXCAVATION.

CENTRAL DIVISION.

MONTHS.	CULEBRA SECTION.*							CHAGRES SECTION.**			
	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1907.	1908.	1909.	1910.
January		70,650	120,990	566,750	1,227,022	1,150,249	1,323,693		169,447	389,399	175,802
February		75,200	168,410	639,112	1,248,265	1,215,648	1,259,173		200,145	428,988	286,309
March		132,840	239,178	815,270	1,290,885	1,434,597	1,509.728		324,233	619,491	484,846
April		126,749	213,177	879,527	1,242,574	1,274,356	1,288,845		329,483	508.410	428.777
May	27,556	75,935	196,209	690,365	960,840	1,126,963	1,099,279		235,902	386,170	248,974
June	32,551	76,905	212,623	624,586	1,134,032	1,242,134			322,145	275,900	
July	31,599	78,570	159,789	770,570	1,121.325	1,200,828			345,757	233,897	
August	35,056	49,210	244,823	786,866	1,173,800	1,173,370		2,900	366,810	231,543	
September	25,220	44,085	291,452	753,468	1,122,860	1,235,978		21,546	346,948	235,818	
October	19,695	52,940	327,009	834,499	1,160,101	1,302,901		25,627	424,911	221,409	
November	28,860	60,540	221,642	790,632	1,022,576	1,070,792		44,044	336,390	93,619	
December	42,935	70,630	307,689	1,025,485	1,210,046	1,152,022		98,652	383,948	105,044	
Totals	243,472	914,254	2.702,991	9,177,130	13,914,326	14.579.838	6,480,718	192,769	3,786,119	3,729.688	1,624,708

ATLANTIC DIVISION. PACIFIC DIVISION.

MONTHS.	COLON (MINDI)†		GATUN LOCKS, DAM AND SPILLWAY.††			PEDRO MIGUEL LOCKS.‡			MIRAFLORES LOCKS, DAMS AND SPILLWAY.‡‡		
	1909.	1910.	1908.	1909.	1910.	1908.	1909.	1910.	1908.	1909.	1910.
January	45,664		292,155	102,690	125,011		83,726	27,320	7,203	61,202	31,479
February	46,046		282,797	95,031	123,738		58,242	9,486	39,046	53,689	15,300
March	70,713		374,598	90,051	132,007		95,624	6,784	73,194	51,417	18,184
April	74,368		373,456	70,009	103,243		101,365	9,129	98,943	60,060	12,148
May	71,407		266,747	52,786	82,958		57,523	10,405	73,023	47,588	20,250
June	80,101		244,951	36,556		13,228	70,971		68,691	55,653	
July	82,378		213,359	39,058		22,648	77,503		104,369	50,999	
August	66,249		188,262	40,346		22,217	58,025		94,248	35,446	
September	61,437		145,990	49,945		28,833	48,825		90,923	31,803	
October	72,643		154,064	57,321		48,875	39,002		74,700	25,349	
November	42,009		118,278	63,452		55,401	20,207		52,930	18,644	
December			119,904	96,590		65,578	28,342		69,650	20,083	
Total	713,015		2,774,561	793,835	566,957	256,780	739,355	63,124	846,920	511,933	97,361

*Total to June 1, 1910, 48,012,729 cubic yards.

**Total to June 1, 1910, 9,333,284 cubic yards.

†Total to June 1, 1910, 1,476,821 cubic yards; in this total are included 172,851 cubic yards removed in 1907, and 590,955 cubic yards removed in 1908.

††Total to June 1, 1910, 5,502,160 cubic yards; in this total are included 26,628 cubic yards excavated October to December, 1906, and 1,340,179 cubic yards in 1907; there were also 38,425 cubic yards removed by dredges at Gatun Dam site in 1907.

‡Total to June 1, 1910, 1,059,259 cubic yards.

‡‡Total to June 1, 1910, 1,456,214 cubic yards; there were also 78,233 cubic yards excavated at Balboa locks and dams in 1907; and 227,515 cubic yards at different points in prism to June 1, 1910.

WET EXCAVATION.

MONTHS.	ATLANTIC DIVISION.						PACIFIC DIVISION.						
	ATLANTIC ENTRANCE.§				GATUN LOCKS.		PACIFIC ENTRANCE.§§						Miraflores Locks.§§§
	1907.	1908.	1909.	1910.	1908.	1909.	1905.	1906.	1907.	1908.	1909.	1910.	1910.
January	111,100	490,701	521,050	510,055		97,043		95,940	94,710	460,250	469,529	518,936	
February	110,002	427,722	444,910	493,448		132,291		95,940	93,480	663,519	671,477	285,791	
March	84,145	546,886	461,208	412,325		141,838		116,820	92,319	783,281	865,696	462,588	
April	69,889	496,366	470,635	190,574		17,938		110,700	104,855	676,539	731,767	534,322	
May	133,847	564,386	315,370	447,578		52,011		112,340	122,157	530,466	720,753	484,509	
June	124,118	572,749	182,575			38,829	50,676	62,697	133,575	656,621	844.685		
July	109,922	625,497	348,451				41,533	98,400	108,338	696,170	733,181		
August	194,297	638,217	422,846				54,530	111,930	168,284	737,774	623,263		
September	403,842	624,776	410,574				114,308	105,780	153,975	750,080	662,976		
October	415,120	505,260	314,778				81,836	97,170	357,122	762,276	720,920		
November	422,797	570,832	457,889				71,176	92,988	365,423	609,089	627,791		
December	442,835	679,604	489,121		8,583		71,094	90,528	349,551	729,960	727,460		
Totals	2,621,914	6,742,996	4,839,407	2,053,980	8,583	479,950	485,153	1,191,233	2,143,789	8,056,025	8,399,498	2,286,146	

§Total to June 1, 1910, 17,685,762 cubic yards; in this total are included 399,820 cubic yards excavated in 1905, and 1,027,645 cubic yards in 1906.

§§Total to June 1, 1910, 22,561,844 cubic yards; there were also 172 cubic yards removed by steam shovels during October, 1908.

§§§Total to June 1, 1910, 309,647 cubic yards, all of which was taken out by dredge in 1909.

CONCRETE IN LOCKS AND DAMS.

MONTHS.	GATUN LOCKS.			PEDRO MIGUEL LOCKS.			MIRAFLORES LOCKS.	
	1909.	1910.	1911.	1909.	1910.	1911.	1909.	1910.
January		54,136			16,273			
February		55,696			13,218			146
March		60,998			18,793			314
April		63,227			24,522			13
May		74,273			29,576			27
June								
July							28	
August	1,298						74	
Sept	12,294			2,370				
October	29,378			8,310				
Nov'mber	30,270			10,169				
December	42,832			13,007				
Total	116,072	308,330		33,856	102,382		102	500

From March 17, 1909, to June 1, 1910, there were placed in the Spillway of Gatun Dam 82,107 cubic yards of concrete, including 3,167 cubic yards placed in May, 1910; in Miraflores Dam there were placed 321 cubic yards up to June 1, 1910.

FILL PLACED IN DAMS.

MONTHS.	GATUN.*		PEDRO MIGUEL.†	MIRAFLORES.‡	
	1910.		1910.	1910.	
	Wet.	Dry.	Dry.	Wet.	Dry.
January	178,254	236,994			28,151
February	292,215	271,788	11,510		1,438
March	332,661	210,387	22,860		5,385
April	242,440	263,437	31,394		6.480
May	204,275	249,283	23,572		
June					
July					
August					
September					
October					
November					
December					
Total	1,249,845	1,231,889	89,336		41,454

*Dry fill begun in January, 1907, and 2,096,477 cubic yards of wet, and 2,405,890 cubic yards of dry fill were placed in 1907, 1908 and 1909.

†170,166 cubic yards placed in dams up to December, 1909, inclusive.

‡138,587 cubic yards of wet fill and 472,091 cubic yards of dry fill were placed in dams up to December, 1909. There were also 110,870 cubic yards of backfill for locks placed up to June 1, 1910.

CANAL EXCAVATION TO DATE.

By French Companies		78,146,960
French excavation useful to present Canal		29,908,000
By Americans—		
Dry excavation	67,146,387	
Dredges	41,084,211	
Total		108,230,598
May 4 to December 31, 1904	243,472	
January 1 to December 31, 1905	1,799,227	
January 1 to December 31, 1906	4,948,497	
January 1 to December 31, 1907	15,765,290	
January 1 to December 31, 1908	37,116,735	
January 1 to December 31, 1909	35,096,166	
January 1 to May 31, 1910	13,261,211	

TOTALS BY DIVISIONS AND AMOUNT TO BE EXCAVATED.

DIVISIONS.	Amount excavated.		Remaining to be Excavated.	
Atlantic—				
Dry excavation	6,978,981	25,191,701	2,582,930	17,885,609
Dredges	18,212,720		15,302,679	
Central—				
Culebra Cut	48,012,729	57,346,013	30,029,566	32,448,480
All other points	9,333,284		2,418,914	
Pacific—				
Dry excavation	2,821,393	25,692,884	3,109,187	16,101,907
Dredges	22,871,491		12,992,720	
Grand totals		108,230,598		66,435,996

OIL AS FUEL.

Results of Tests at Boiler Plants in Canal Zone.

The first installation of burners for California crude oil was made in the two locomotive type boilers in the Mount Hope pumping station early in 1908. At the present time practically all of the stationary boiler plants along the line of the Canal, the dredges, clapets and other marine equipment on the Pacific end of the Canal, as well as twelve 20-inch by 26-inch mogul locomotives on the Panama railroad main line use oil exclusively. The Sanitary Department also uses this oil for spreading over stagnant water to assist in mosquito extermination.

An article published in THE CANAL RECORD of November 11, 1908, gave the terms of the revocable license, granted on January 10, 1906, to the Union Oil Company of California to operate and maintain a pipe line across the Isthmus, and to furnish crude oil to the Isthmian Canal Commission and the Panama Railroad Company at 90 cents per barrel of 42 gallons; and also described the system by which the oil is delivered. On April 1, 1909, an amended contract went into effect providing for a price of $1.10 per barrel (delivered into storage tanks) for a term of six years and guaranteeing the use of not less than 30,000 barrels a month at this price. The Oil Company has since served notice that if more than 60,000 barrels, the maximum amount named in the contract, are used, a higher price will be charged. About 55,000 barrels are consumed each month at present, the oil being tapped direct from 42 storage tanks situated at convenient places along the line of the Canal.

Since the publication of the first article tests have been made by the testing engineer of the Mechanical Division to find out what changes in the various plants using oil would increase the efficiency, and thus lower the cost. The lowest efficiency obtained was that in which 7.12 pounds of water were evaporated from and at 212° F., per pound of oil, and the highest, that in which one pound of oil evaporated 14.22 pounds of water. It has been found in most cases that oil at $1.10 per barrel is more economical than coal at $6.25 per ton, the cost of Pocahontas coal at all points on the Isthmus excepting Cristobal and Colon. The use of oil as fuel has been discontinued at the cold storage plant in Cristobal, because it is cheaper to use coal.

The following table shows the wide variation in economy of the boilers, due to the fact that their settings were designed originally for coal burning and no very extensive changes were made when they were fitted for oil, because of the former uncertainty of the continued use of this fuel:

LOCATION.	Number and type of boilers.	Rated boiler horsepower generated during test. (Per cent.)	Efficiency of boilers (Per cent.)	Equivalent evaporation from and at 212° F. per lb. of fuel oil. (Lbs. water.)
Cristobal ice plant	6 Abendroth and Root water tube	118.	69.5	12.56
Mount Hope pumping station	2 Locomotive type	65.0	39.0	7.12
Gatun pumping station	3 Locomotive type	198.	61.6	11.23
Gatun power plant	6 Keeler water tube	95.	71.7	13.07
Gorgona pumping station	2 Scotch marine	170.	75.2	12.80
Gorgona shop power plant	6 Horizontal fire tube	79.	70.0	12.49
Las Cascadas air compressor plant	6 Horizontal fire tube	98.	74.1	13.28
Empire air com. and power plant.	12 Horizontal fire tube	101.	76.5	13.69
Rio Grande air compressor plant	6 Horizontal fire tube	90.	77.6	14.22
Ancon pumping station	3 Vertical fire tube	173.	68.5	12.50
Balboa power plant	5 Manning vertical fire tube	71.	63.3	11.75
Balboa power plant	2 Stirling water tube	115.	73.8	12.82

The tests were made as nearly as possible under normal working conditions, and the highest economy was obtained at Rio Grande, where all the air for combustion is preheated by passing through fire-brick passages below the flame. All the burners are of the steam spraying type, using steam at full boiler pressure and oil under a gravity head of from 30 to 100 feet.

Oil heaters have been installed recently in several of the plants and a gain in economy is expected. The upkeep cost of brickwork has been much higher than when coal was burned, and several new types of furnace, especially designed for oil burning, are under consideration and test at the present time. It is expected that a furnace giving both a high thermal efficiency and a low upkeep cost will be developed within a short time for the 84-inch by 18-foot horizontal fire tube boilers, of which there are thirty in service at Rio Grande, Empire, Las Cascadas, and Gorgona Shops.

Athletic Events for Fourth of July.

The athletic committee for the Fourth of July celebration to be held at Cristobal have arranged the following program of events, open to any one desiring to enter the contests:

REGULAR EVENTS.

1. 120-yard hurdles (low).
2. One mile run.
3. 100-yard dash.
4. 220-yard dash.
5. 440-yard dash.
6. Relay race, four laps.
7. Shot put, 12 pounds.
8. Running high jump.
9. Running broad jump.
10. Pole vault.
11. Hop, step and jump.
12. Hammer throwing.

SPECIAL EVENTS.

1. Pipe race.
2. Boys' race—under 16 years—50 yards.
3. Sack race, 75 yards.
4. Boys' relay race—under 16 years—two laps.
5. Three-legged race, 100 yards.
6. Fraternal relay race, four laps.
7. Tug-of-War, 10 men.
8. Wall scaling competition.

A fee of 25 cents will be charged for entry in the regular events. Special events, entry free. Awards will be offered, including gold, silver and bronze medals, and the prizes will be distributed on the evening of the Fourth. The entries will close Friday, June 24. Competitors who enter in the regular events cannot enter in the special events.

Killed by a Locomotive.

Robert E. Howard was struck by a locomotive on the Panama railroad about a half mile south of Frijoles station, on the afternoon of May 29, and was killed. He was a timekeeper on the relocation of the Panama railroad and his quarters were at Frijoles. He was born in 1882, at Independence, Ia., and had been on the Isthmus about 18 months.

Red Cross Financial Statement.

Following is the financial statement of the treasurer of the Canal Zone Chapter, American National Red Cross, for the month of May, 1910:

RECEIPTS.

May 1—Balance on hand	$2,353.39
May 10—Cash from Gorgona Section	48.00
May 10—Receipts of ball game, Ancon, Strangers' Club and University Club	61.25
May 12—Collections at Gorgona, account of Costa Rican earthquake sufferers	62.50
May 17—Collections at Gorgona, account of Costa Rican earthquake sufferers	150.00
May 21—Donation from Mr. R. L. Mock	10.28
May 22—Receipts of benefit entertainment, account of Costa Rican earthquake sufferers, Gatun Y. M. C. A.	39.00
May 27—Cash returned from money advanced for relief of family at Empire	49.80
May 31—Receipts of benefit entertainment, Gatun Y. M. C. A.	9.50
May 31—Interest on money in bank, March and April	7.36
May 31—Receipts to date, account of benefit performance, National Theatre, Panama.	543.90
May 1 to 31—Membership dues	53.00
Total receipts	$3,387.98

DISBURSEMENTS.

May 2—Relief of old man in Ancon Hospital	$50.25
May 4—One-half of receipts for annual dues for quarter ending April 30, $352, and one life membership, $25, remitted to treasurer, American National Red Cross, Washington, D. C.	377.00
May 7—Cablegram to Washington relative to earthquake in Costa Rica	6.50
May 10—Relief of sufferers in Costa Rica	500.00
May 12—Relief of case in Colon Hospital (1)	100.00
May 12—Relief of case in Colon Hospital (2)	30.00
May 21—Relief of family at Empire	5.00
May 21—Postage	2.00
May 24—Relief of family at Empire	77.50
May 31—Exchange on check from R. L. Mock	.25
Total disbursements	$1,148.50
May 31—Balance on hand	$2,239.48

JOHN L. PHILLIPS, *Treasurer.*

Disbursements approved June 2, 1910,
C. A. DEVOL, *Chairman.*

Band Concerts.

The Isthmian Canal Commission Band will give a concert at Hotel Tivoli, Ancon, C. Z., on Sunday, June 12, 1910, at 7.30 p. m. The program follows:

1 March—*Army and Marine* ...... Zehle
2 Selection—*The Dollar Princess* ...... Fall
3 Waltz—*Idle Hours* ...... Wood
4 Ragtime—*Wild Cherries* ...... Snyder
5 Serenade from Ballet of Les Millions d'Arlequin ...... Drigo
6 Overture—*Mysora* ...... Wettge
7 Ballet and Soldier Chorus from Wm. Tell ...... Rossini
8 Medley Selection—*Amina* ...... La Farge
Introducing "When Two Love Dearly," "Come After Breakfast," "To Err is Human, to Forgive Divine," "I Wish I Had My Old Girl Back Again," "That Teasing Rag," "My Way to Heaven is Through Your Love, Sweetheart," "I'm Not That Kind of a Girl," and "Amina."
9 Concert Number—*Narcissus* ...... Nevin
10 March—*That Fascinating Ragtime Glide* ...... Mills

The Isthmian Canal Commission Band will give a concert at Cristobal, C. Z., on Wednesday, June 15, at 8.15 p. m. The program follows:

1 March—*En Masse* ...... Reeves
2 Selection—*The Dollar Princess* ...... Fall
3 Reverie—*Sicilian Chimes* ...... Mills
4 Overture—*Mysora* ...... Wettge
5 Trombone Solo—*In Old Madrid* ...... Trotere
(By request) Charles A. Whitney.
6 Intermezzo—*Flower Girl* ...... Wenrich
7 Selection—*Rigoletto* ...... Verdi
8 Ragtime—*Wild Cherries* ...... Snyder
9 Ballet, Music and Soldier Chorus from Wm. Tell ...... Rossini
10 March—*Army and Marine* ...... Zehle

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Culebra, C. Z., on Sunday, June 19, at 5.45 p. m.

Married.

MCLEOD-WRIGHT—At Cristobal, C. Z., on Thursday, May 5, 1910, Adeline Puvay Wright of New York, to Arthur Thomas McLeod of Colon, Rev. Carl H. Elliott officiating.

MANLEY-CHADWICK—At the home of the bride's sister, Mrs. Arthur Luther, in Cristobal, on Thursday, June 2, 1910, Sarah Florence Chadwick of Columbus, O., to William Gardner Manley of New York, Rev. Carl H. Elliott officiating.

STEEL AND METAL SUPPLIES.

Annual Contracts Placed for Standard Supplies of Sixty Classes.

The Commission has let the annual contract for railroad rails and supplies, nuts, bolts and similar articles, chain, wire cable and other articles made of wire, pipe, tubing, and miscellaneous articles made of metal, and supplies of various metals, to the following firms or corporations; the total for the supplies estimated to be used being $891,442.40, of which amount the United States Steel Products Export Company has been awarded $524,424.08:

Rail, 70-pound, 5,275 gross tons, open hearth, $31.35 a ton, $165,371.25. Bethlehem Steel Company.

Frogs, 215, $7,888. Switches, split, 210, $5,229. Switches, split, 200, $10,380. Rail braces, 4 pounds each, 20,000, $1,940. Angle splice bars, 50,000, in all 1,083,500 pounds, $18,419.50. Track spikes, 1,000,000 pounds, $17,300. Rail braces, 20,000 of 4 pounds each, $1,940. United States Steel Products Export Company.

Switch stands, ground throw, 5-foot gage, 375, $2,718.75. The Buda Company.

Tie plates, 3 pounds each, 325,000, $20,150. Frogs, 360, $24,845. R. C. Hoffman & Co.

Track bolts, 200,000 pounds, $5,100. Oliver Iron and Steel Company.

Sheet steel, 605 sheets in 15 sizes and weights, $1,018.81; 11,055 sheets in 128 sizes and weights, $87,281.72. United States Steel Products Export Company.

Steel angles, equal legs, 4,940 bars in 38 sizes; unequal legs, 2,675 bars in 34 sizes. Steel channels, 1,096 bars in 41 sizes. Steel I-beams, 1,058 bars in 33 sizes, varying from 8-inch to 24-inch. In all, 3,592,641 pounds, at 1.5 cents per pound. United States Steel Products Export Company, $53,889.60.

Steel bars, cold rolled in 12 to 14 foot lengths, diameters ¼ inch to 4 7-16 inches, 3,213 bars; in all 304,291 pounds, at from 2.3 cents to 4.76 cents per pound, $7,382.94. United States Steel Products Export Company.

Boiler steel for fire-boxes, 33,139 pounds in 51 sheets, at 1.82 cents per pound, $603.12.

Merchant bar, soft steel, flat bars in 12 to 14 foot lengths, at 1.49 cents per pound; half round at 1.63 cents per pound; hexagonal, at 1.58 cents per pound; round, at 1.49 cents per pound; in all, 6,061,811 pounds; total, $90,502.72.

Planished iron 30 by 84, and 30 by 96 inches, 950 sheets, 20,725 pounds, at 7.7 cents per pound, $1,595.83. United States Steel Products Export Company.

Stay bolt iron, round, 80 bars, at 3.15 cents per pound, 200 bars, at 3.1 cents per pound; total, $345.67, to Pittsburg Forge and Iron Company.

Galvanized sheet steel, 107,193 pounds, 1,450 sheets, at 2.72 cents a pound; 2,400 sheets, at 2.87 cents a pound; 150 sheets, at 3.07 cents a pound, $3,008.79. United States Steel Products Export Company,

Galvanized steel, corrugated roofing, 50,000 sheets, 36 by 96 inches, 1,280,000 pounds, at 2.92 cents per pound, $37,376. United States Steel Products Export Company.

Rivets, all kinds, 461,800 pounds, $12,417.35. Oliver Iron and Steel Company.

Bolts—Carriage, 269,050; machine, 1,265,625; total bid, $35,063.91; Oliver Iron and Steel Company. Stove, 40,800; tire, 3,900; total bid, $109.78. Manning, Maxwell & Moore. Drift, 37,900; total bid, $2,079.31.

Spikes, square, boat, wrought steel, galvanized, 92,000 pounds, $2,403.60. United States Steel Products Export Company.

Washers—Plate or cut, 90,450 pounds, $2,090; H. A. Hituer's Sons Company. Cast iron, 91,000, $1,348.05 Mobile Stone and Pulley Manufacturing Company. Lock, 45,000, $176.75. The National Lock Washer Company.

Chain—Straight link, ¼ inch to 1¼ inch, at 3.6 cents to 41.4 cents per foot, 41,000 feet; straight link, galvanized, ¼ inch to 1 inch, at 4 cents to 33.5 cents per foot, 8,700 feet; total bid, $7,043. Standard Chain Company.

Cable—Extra galvanized steel wire for guys, etc., ¼ inch to 1 inch, 58,000 feet, at 0.93 cents to 5.45 cents per foot; hoisting, extra flexible, plow steel, ⅝ inch to 1½ inch, at 4.15 cents to 16.65 cents per foot, 42,000 feet; hoisting, plow steel, ¼ inch to 1½ inch diameter, 1.85 cents to 16.5 cents, 180,000 feet; hoisting, Swedish iron, ¼ and ⅜ inch, 18,000 feet, 1.2 cents to 1.55 cents per foot; total bid, $14,545. United States Steel Products Export Company.

Tiller rope, ¼ inch to ½ inch, 12,000 feet, at 2 cents to 2.55 cents per foot, $277. United States Steel Products Export Company.

Wire—Galvanized, soft steel, all sizes, 18,000 pounds, at 2.225 cents to 2.775 cents per pound, $443.10. Barbed, 25,000 pounds, at 2.35 cents per pound, $587.50. Spring steel, No. 4 to No. 24, at 2.65 cents to 8.85 cents per pound, 740 pounds, $24.58. Copper annealed, 2,800 pounds; unannealed, 1,400 pounds, 1.45 cents to 1.55 cents per pound, $622.30. United States Steel Products Export Company.

Mosquito screening, bronze wire cloth, 900,000 square feet, at 3.25 cents per square foot, $29,250. Wickwire Brothers.

Wire screen, for sand screens, etc., 12,000 square feet. $1,020. New Jersey Wire Cloth Company.

Wire netting—Galvanized, 3 mesh to inch, 30,000 square feet, $675.00. Poultry netting, 141,750 square feet, $1,359.45. Clinton Wire Cloth Company.

Pipe—Cast iron, 4 inch to 12 inch, 27,500 feet, 1,337,350 pounds, at $1.385 and $1.335 per 100 pounds; 45 tees, 6,450 pounds, at $2.74 per 100 pounds; $18,046.62. Lynchburg Foundry Company.

Pipe—Soil, single hub, 4,000 feet 2-inch, at 6.01 cents, and 3,000 feet 4-inch, at 9.70 cents per foot; double hub, 2,000 feet 2-inch, at 7.4 cents per foot; 2,500 feet 4-inch, at 11.09 cents per foot; bends, 800 2-inch, at 6.59 cents, each; 625 4-inch, at 14.63 cents each; total bid, $1,100.80. The Casey-Hedges Company.

Pipe—Wrought steel, black, standard, ¾ inch to 12 inch, 2.17 cents to $1.25 per foot, 412,300 feet; wrought steel, galvanized, ¾ inch to 10 inch, 642,000 feet, at 2.85 cents to $1.25 per foot; total bid, $153,415.10. United States Steel Products Export Company.

Tubes, boiler, cold drawn seamless, 50,912 feet, 1½ inch to 3 inch, at 8.5 cents to 16.6 cents per foot, $6,289.37. United States Steel Products Export Company.

Tubing—Brass, ⅛ inch to 3 inch, 6 cents to $1.37 per foot, 4,400 feet, $1,135.40. Copper, seamless drawn, ¼ inch to 2 inch, 2,150 feet, at 4.19 cents to 24.8 cents per foot, $165.01. Copper, extra heavy, seamless, ⅛ inch to 6 inch, 6,550 feet, 3.2 cents to $3.79 per foot, $4,749.55. All to National Brass and Copper Company.

Lead pipe, 39,600 pounds, at 5.68 cents per pound, $2,249.28. Selby Smelting and Refining Company.

Babbitt metal, 40,000 pounds, at 21.74 cents; 1,000 pounds, at 20.95 cents; 10,000 pounds, at 5.35 cents per pound, $9,440. Columbia Smelting and Refining Works.

Sheet copper, cold rolled, 38,312 pounds, at 16.9 cents per pound, $6.525.42. Ansonia Brass and Copper Company.

Sheet brass, hard, 16,945 pounds, at 17, 20, and 32 cents per pound, $3,650.30. Taunton-New Bedford Copper Company.

Bronze, tobin, in rolled bars 10 or 12 feet long, ¼ inch to 2 inch, 12,914 pounds; in hexagonal bars, ½ inch to 2 inch, 5,879 pounds, $2,818.95. Ansonia Brass and Copper Company.

Muntz metal, $645.86; yellow metal, $632.86. Taunton-New Bedford Copper Company.

Tin, banca, 2,500 pounds, at 33.9 cents per pound, $847.50; pig, 2,500 pounds, at 32.49 cents per pound, $812.25. Columbia Smelting and Refining Company.

Zinc, pig, 10,000 pounds at 5.6 cents per pound, $560. Columbia Smelting and Refining Company.

Lead—Pig, 50,000 pounds, at 3.6 cents per pound, $1,800. Sheet, 18,000 pounds, at 5.45 cents per pound, $981. American Metal Company. Ltd.

Horseshoes, 24,000 pounds, at 3.12 cents to 4.62 cents a pound, $774.30. United States Steel Products Export Company.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., June 8, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Biermann, F.
Bodelti, Wm
Bonaparte, Heary
Brown, D. W.
Byram, Fred
Carty, C. G.
Cate, Joseph
Clark, Daniel A.
Cutler, Harry B.
Dickheff, Mrs. J.
Gallo, Guiseppe,
Goulstone, A.
Hockenberry, Charles P.
Howard, A. F.
Kester, T. P.
Lang, Arthur W.
Murtin, M.
O'Reilly, William J.
Polack, Wilfred E.
Queripel, James (2)
Rands, Joe
Rosselott, W. L.
Schwolenburg, Henry
Sheehan, Joseph
Shepard, Fred K.
Stamon, Nicholan
Stanley, Miss L. P.
Wells, Chas.
Williams, Alexander
Wilmer, Jannie
Wood, C. E.

Work of Central Division Unloaders in May.

LOCATION.	No. of unloaders.	No. of trains.	No. of cars.
Balboa	3	761	14,459
Miraflores	3	695	13,205
Gamboa	2	412	7,828
Tabernilla	3	799	15,181
Totals	11	2,667	50,673

OFFICIAL CIRCULARS.

Sand in P. R. R. Coal Cars.

CULEBRA, C. Z., May 31, 1910.

CIRCULAR NO. 320-A:

As it has been found that 15 cubic yards of sand, stone or gravel give the old Panama railroad coal cars an overload of about 25,000 pounds, the standard load for these cars will be reduced from 15 cubic yards to 7.5 cubic yards.

H. F. HODGES, *Acting Chairman.*

Canal Zone Boundary Monuments.

CULEBRA, C. Z., May 31, 1910.

CIRCULAR NO. 332:

The Third Division of the Chief Engineer's Office, under the direction of Mr. C. M. Saville, Assistant Engineer, will be responsible for the care and maintenance of the monuments marking the Canal Zone boundary.

It is directed that in case it should become necessary to move or replace any of these monuments, the Third Division be notified in advance in order that an engineer may be detailed to supervise the work and arrange for the resetting of the monument in proper position.

It is also requested that when any monument is found to be in need of repairs or attention, that fact be reported to the Third Division of the Office of the Chief Engineer.

H. F. HODGES, *Acting Chairman.*

In Charge of Central Division Work.

CULEBRA, C. Z., May 31, 1910.

CIRCULAR NO. 333:

Effective this date, and until the return of the Division Engineer from leave of absence, Mr. George A. Greenslade, General Superintendent of Construction, is placed in charge of the work of the Central Division.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Supplies for Canal Work.

The following steamers, with supplies for the Isthmian Canal Commission, arrived at the ports of Cristobal, Colon and Balboa, during the week ending June 4, 1910:

Wermland, May 30, from Baltimore, with 6,517 tons castings for locks (Atlantic and Pacific Divisions); 300 cast iron car wheels for Mechanical Division; 800 cases dynamite for Atlantic Division; 16,326 cases dynamite, 100 kegs boat spikes, 500 kegs track spikes, 254 pieces steel angles, channels and beams 2,348 pieces steel bars, 422 bundles steel bars, 379 crates tool handles, 200 tons coke, 1,509 pieces iron pipe, 2,000 pieces sewer pipe, 48,760 pounds nails, 1,000 cases gasoline, 255 cases paint and 11 barrels paint for stock.

Ellis, May 30, from New Orleans, with 3,610 tons dump car parts for Cristobal shops (for erection); 830 cross-ties and 1,023 bales hay for stock.

Prinz Joachim, May 30, from New York, with 30 cases paint and 115 cases electric fuses for stock.

Advance, May 31, from New York, with 6 pieces machinery, 2 cases machinery, 6 reels wire cable, 22 cases electrical machinery and 8 cases rubber dredge sleeves for Atlantic Division; 2 crates repair parts and 4 cases electrical machinery for Pacific Division; 10 reels wire cable and 10 cases electrical machinery for Mechanical Division; 6 cases miscellaneous material for Sanitary Department; 9 kegs copper nails, 5 crates lubricators: 42 crates pipe, 73 kegs rivets, 202 cases brake equipment, 5 cases jacks, 70 bales rubber hose, 12 cases files, 494 pieces wrought iron pipe and 6 cases brass goods for stock; and a miscellaneous cargo, the whole consisting of 1,153 packages, weighing 214 tons.

Turrialba, June 2, from New Orleans, with 22 cases machinery and 11 pieces machinery, 6 pieces derrick masts and booms for Atlantic Division; 425 pieces yellow pine lumber for Pacific Division; 260 tons car parts for Cristobal shops (for erection); 2,646 bales hay, 100 railroad switches, 443 pieces pipe, 1,711 cross-ties and 80 pieces piling for stock.

Zacapa, June 2, from New York, with 48 coils wire rope for Pacific Division, 30 cases book paper, 550 pieces iron pipe, 1,047 pieces steel and 372 bundles steel for stock.

Hornelen, June 4, from Tacoma, with 94,080 feet Douglas fir lumber for Central Division; 360,884 feet Douglas fir lumber for Mechanical Division; 747,217 feet Douglas fir lumber for stock.

Knights of Columbus.

A regular meeting of Panama Council will be held at Ancon Hall, Sunday, June 12, 1910, at 1.30 p. m. All members are requested to attend. Visiting members are cordially welcomed.

C. P. CONLAN,
Financial Secretary.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

A moving picture entertainment was held at the building on Friday evening, June 3. The reels which were used were received from the States, and notwithstanding a heavy downpour of rain at the time a good-sized audience was present to enjoy them.

The library of the association was the recipient of two volumes of a book entitled "Speeches of William Jennings Bryan," presented by the author, and are accompanied by his signature.

The pianola is undergoing repairs, and will soon be in shape for use.

Several improvements have been made in the lunch counter.

The bowling alleys are being thoroughly overhauled, leveled and polished; and a supply of new bowling balls consisting of the composition and lignum vitae variety has been ordered. The members are anxiously awaiting for the finishing touches to begin a busy tournament season.

On Tuesday evening, June 7, the chess club will have an interesting meet. C. M. Wilson issues a challenge to all comers for a tryout at simultaneous games.

CRISTOBAL.

Monday, Decoration Day, an interesting game of baseball was played between the "Picks" and "Selects. The "Picks" won by a score of 4 to 0. Goodman pitched for the "Picks" and Burrell for the "Selects."

Regular systematic gymnastic work was started Wednesday night and considerable interest is shown. The regular classes will meet on Monday and Wednesday nights. The regular boys' classes are also running.

On Thursday night, the Employed Boys met and defeated the High School basketball team by a score of 16 to 15. The game was a close contest from start to finish.

Friday night, the local chess tournament commenced with fifteen entries. The local bowling tournament closes this week.

Sunday afternoon, the men's meeting was led by Mr. A. J. Goddard, who spoke on "The Jews' Attitude Toward Social Reform."

During the coming week a stereopticon lecture will be given. The Minstrel banquet will be held during the week and the regular gymnasium classes will meet Monday and Wednesday, at 8 p. m.

The local pool tournament will start Thursday night. The standing in the championship chess tournament is as follows:

	Played.	*Won.*	*Lost.*	*Per Cent.*
Schaff	2	2	0	1000
Pack	3	2½	½	.833
Alper	7	5	2	.714
Davidson	7	5	2	.714
Rittner	5	2½	2½	.500
Wempe	1	½	½	.500
Cleall	4	1½	2½	.375
Ware	4	1½	2½	.375
Henriquez	2	½	1½	.250
Pike	4	1	3	.250
Barnes	2	0	2	.000
Einsohn	2	0	2	.000

GATUN.

In the Decoration Day bowling contest over 200 games were rolled. John Luckey took first prize for high game, score 212; L. H. Lahm, second prize, score 202, and John T. Severn, third with 196.

Eight teams rolled last week in the "rag-time" tournament. The three teams rolling over 1,000 were: Luckey and Barte, 1 083; Taylor and Gilmartin, 1,071; Hertz and Dalton, 1,039. Barte's 243 was the highest single score for the week.

Gatun took three games of bowling from Empire Saturday night. The scores were as follows:

	1st.	*2d.*	*3d.*
Gatun.			
Barte	197	183	159
Taylor	164	183	152
Gilmartin	182	169	182
Severn	202	180	184
Durand	168	225	203
Total	913	940	880
Empire.			
Leon	182	118	149
Hall	183	198	149
Pierson	147	136	180
Huson	160	168	182
Gustavson	137	146	163
	809	766	823

Total pins—Gatun, 2.743; total pins—Empire, 2,398.

Gatun's score is believed to be a record breaker for the Isthmus.

Walter H. Poore and E. A. Wright have been appointed office assistants at the clubhouse.

An order for new library books will be sent to the States this week. Those having suggestions will kindly give them to the secretary at once.

The graphophone records are proving popular with the members.

In the pool tournament now in progress Hughes leads in Class A and Kennedy in Class B, each with 1000 per cent.

The class in mechanical drawing will meet as usual on Friday evenings during the absence of Mr. Fox.

Thirty new members were added to the membership during the month.

A smoker for the men of Gatun (whether members of the association or not) will be given on June 15. Every man in Gatun is cordially welcome.

Rainfall, June 1 to 4, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	.78	3	1.29
Balboa	.94	3	1.37
Miraflores	1.12	3	1.71
Pedro Miguel	1.50	3	2.02
Rio Grande	.99	3	1.88
Central Section—			
Culebra	1.10	3	1.84
Camacho	.73	3	1.42
Empire	.84	3	1.54
Gamboa	1.95	3	2.69
Alhajuela	1.70	4	2.79
El Vigia	2 79	4	3.60
San Pablo	2.00	3	2.54
Tabernilla	1.73	3	2.37
Bohio	1.11	2	1.91
Gorgona	3.50	4	4.37
Monte Lirio	3.64	2	4.79
Atlantic Section—			
Gatun	3.63	2	4.38
Brazos Brook	2.87	2	4.72
Cristobal	3.30	2	4.62
Porto Bello (to 5 p. m. June 3)	.41	2	.53

May Rainfall for Three Years.

STATION.	1908.	1909.	1910.	Station average.	Years of record.	No. rainy days—1910.
Pacific Section—	*Ins.*	*Ins.*	*Ins.*			
Ancon	7.64	9.10	9.89	8.66	12	23
Balboa	8.65	9.69	8.88	6.94	14	22
Miraflores	......	8.75	10.39	9.57	2	25
Pedro Miguel	14.75	8.50	13.24	12.16	3	20
Rio Grande	14.26	7.32	10.96	10.54	6	17
Central Section—						
Culebra	12.63	7.36	10.50	11.11	19	18
Comancho	17.29	9.34	12.05	11.00	4	25
Empire	12.91	7.73	11.08	9.52	6	20
Gamboa	15.29	15.37	11.09	10.89	29	20
Alhajuela	19.72	14.32	11.50	12.35	10	24
El Vigia	......	15.54	10.47	13.00	2	23
Gorgona	......	......	8.06	12.20	6	14
Sau Pablo	11.34	9.00	9.93	10.09	3	23
Tabernilla	14.79	10.07	9.15	11.34	3	28
Bohio	18.59	13.69	14.14	13.93	16	28
Trinidad	18.41	10.79	11.21	13.47	3	30
Monte Lirio	22.54	9.29	11.84	14.56	3	31
Atlantic Section—						
Gatun	17.30	8.98	15.68	15.39	6	25
Brazos Brook	22.10	7.51	11.27	11.92	4	30
Cristobal	22.49	7.21	12.09	12.31	40	24
Porto Bello	21.03	9.69	9.30	13.34	3	24

The following vessels arrived at and departed from the port of Balboa during the week ending June 4:

Arrivals—May 30, *Peru*, from San Francisco, and *Loa*, from South; June 2, *Quito*, from Buenaventura and Tumaco, and *Arica*, from Guayaquil.

Departures—May 28, *Ecuador*, for Guayaquil; May 30, *Huallaga*, for south ports; May 31, *Newport*, for San Francisco, and *Limari*, for south ports.

BASEBALL.

ATLANTIC LEAGUE.

RESULT OF GAME, JUNE 5.

Com.-Subsistence, 5; Civil Administration, 2.

STANDING OF CLUBS.

	P.	*W.*	*L.*	*Pc.*
Com-Sub	16	13	3	.812
P. R. R.	14	7	7	.500
Colon	16	6	10	.375
Civ. Adm.	16	5	11	.312

SCHEDULE FOR JUNE 12.

Panama Railroad vs. Colon.

C. A.	AB.	H.	PO.	A.	E
Edwards, 1b.	4	2	8	1	1
Ferrar, cf.	4	0	1	1	1
Pearman, 3b.	3	0	4	2	2
Smith, c.	4	0	7	1	0
Hunter, 1f.	4	1	3	0	0
Fleishman, 2b.	4	1	2	2	1
Russell, p.	3	1	0	5	0
McKeever, ss.	3	0	1	0	0
Freel, rf.	2	0	1	0	0
Blane, rf.	1	0	0	0	0
Totals	32	5	27	12	5

C.-S.	R.	H.	PO.	A.	E
Sullivan, 3b.	5	2	0	2	1
Lindberg, 1f.	5	0	3	0	0
Curtis, ss.	4	2	1	2	0
Muggleton, 2b	4	2	0	2	0
Mosher, p	4	1	0	3	0
McGinuis, cf.	4	0	2	0	0
Horrigan, rf.	4	0	0	0	0
Payne, 1b.	4	1	12	0	0
Beard, c.	4	0	9	3	0
Totals	38	8	27	12	1

Civil Administration	0	0	0	0	0	0	2	0	0	—2
Com.-Subsistence	0	0	4	0	0	0	0	1	0	—5

Runs—C. A.; Hunter, Fleishman: C.-S.: Sullivan, Lindberg, Curtis (2), Muggleton. Runs earned—C. A., 2; C.-S., 2. First base on balls—Off Russell, 1. Left on bases—C. A., 4; C.-S., 7. Wild pitch—Mosher. Passed ball—Beard. Hit by pitcher—Pearman. First base on errors—C. A., 1; C. S., 5. Two base hit—Russell. Struck out—By Mosher, 9; by Russell, 5. Time of game—1.55. Umpire—Durand. Scorer—Rennard.

Miscellaneous Events.

A team composed of employes of the Department of Civil Administration defeated a team composed of employes of the Department of Sanitation at Ancon Park, Friday evening, June 3, by a score of 13 to 5 Another game will be played at the Park between these teams on Sunday forenoon, June 12, at 10 o'clock.

A game of baseball was played at the Empire park on Decoration Day, May 30, between the office forces of the Chief Quartermaster, and Chief Engineer, resulting in a defeat for the former by a score of 7 to 4. Another game between the same talent will probably be played shortly.

Mr. H. McKeown, a boilermaker at Balboa, crossed the Isthmus on foot on Decoration Day in 9 hours and 55 minutes, breaking all previous records. He left Colon at 5.15 a. m., and arrived in Panama at 3.10 p. m., within five minutes of the time limit. He covered most of the distance, 47.14 miles, at a dog trot.

An international marathon race will be held at the Ancon park on Sunday, July 10. Applications for entries in the various events should be sent to James W. Higgins, Ancon.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, June 4, 1910.

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Lake.)
Height of low water above sea-level, ft.	125	92	46	0	0
Maximum height ab. mean sea-level, feet:					
Sunday, May 29	132.3	98.5	61.9	23.5	18.9
Monday, May 30	130.1	95.9	49.2	19.3	18.7
Tuesday, May 31	128.7	95.1	49.2	18.4	18.2
Wed'esday, June 1.	128.4	94.8	48.2	18.0	17.7
Thursday, June 2	135.0	98.9	50.3	17.5	17.3
Friday, June 3	133.2	95.2	53.3	18.9	17.8
Saturday, June 4	129.1	95.2	50.4	18.9	18.0

FOUND—A watch found in the ruins of Weldon's Hotel, Cartago, engraved "Eliza May Trudo" has been forwarded to the Isthmus by Mr. Jos. Weldon. Owner may obtain the same upon application to office of Chief Engineer, Culebra.

WEATHER CONDITIONS, CANAL ZONE, MAY, 1910.

STATIONS.	Press're (reduc'd to mean of 24 hours.)	Temperature.					Mean relative humidity.	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches.	Station average.	Number of rainy days.	Total movement (in miles.)	Prevailing direction.	Max. velocity (in miles.)	Direction.	Date.
Cristobal	29.878	79.0	87	24	71	29	88	12.09	12.31	24	6,507	N.	24	N.E.	3
Culebra	29.866	78.6	90	29	68	29	93	10.50	11.11	18	4,326	N.W.	24	N.	13
Ancon	29.864	79.2	92	1	69	29	90	9.89	8.66	23	4,718	N.W.	27	S.E.	28

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning June 4.

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (5 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (5 to 8 pounds)	per lb	24
Chops	per lb	26
Cutlets	per lb	26
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	2
Soup	per lb	5
Stew	per lb	9
Corned	per lb.,	12, 14, 16
Chuck roast	per lb	13
Pot roast	per lb	15
Rib-roast, second cut (not under 3½ pounds)	per lb	18
Rib-roast, first cut (not under 3 pounds)	per lb	20
§Sirloin roast	per lb	21
Rump roast	per lb	21
Porterhouse roast	per lb	21
Steak, Chuck	per lb	14
Round	per lb	15
Rib	per lb	20
Sirloin	per lb	21
Porterhouse	per lb	21
Rump	per lb	21
Tenderloin	per lb	24

MISCELLANEOUS.

Livers—Beef	per lb	†10
Calf	each	60
Half	each	30
Sausage—Pork	per lb	17
Bologna	per lb	14
Frankfurter	per lb	14
Leberwurst	per lb	14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	25
Eggs, fresh	dozen	28
Oysters, in 1-quart kegs	keg	55
Shads	each	75
Shad Roes	pair	40

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each	70, 82, 93, 1.04, 1.15
Ducks, large	each	1.50
medium	each	1.30
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese	each	2.50
Pheasants	each	70, 1.00
Partridges	each	50
Grouse	each	85

CURED AND PICKLED MEATS.

Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Sugar cured	per lb	21
Sugar-cured, sliced	per lb	25
Half, for boiling	per lb	22
Boiled	per lb	28
Hocks	per lb	‡8
Bacon—Breakfast, whole piece	per lb	28
Breakfast, sliced	per lb	29
Beef, salt, family	per lb	12
Pork, salt, family	per lb	18
Ox tongues	each	80
Pigs' feet	per lb	10
tongues	per lb	16
Mutton, mess	per lb	7

DAIRY PRODUCTS.

Butter—Creamery special	per lb	40
Cheese—Roquefort	per lb	38
Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	26
Edam	each	1.00
Neufchatel	each	6
Gouda	per lb	34
Milk, Briarcliff	bottle	**25

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	8
Lettuce	per hd	8, 12, 16
Cucumbers	per lb	*5
Potatoes, white, old	per lb	3
white, new	per lb	*3
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	5
Tomatoes	per lb	8
Turnips	per lb	3
Carrots	per lb	3
Beets	per lb	3
Parsnips	per lb	3
Cabbage, new	per lb	*4
Rhubarb	per lb	7
Spinach	per lb	†10
Peas, green	per lb	15
Lemons	dozen	24
Oranges, California	dozen	30
Apples	per lb	5
Tangerines	each	2
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4
Pineapples	each	18

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending June 15, 1910, (75th meridian time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	P. M.	P. M.	P. M.
June 9	4.48	11.00	5.03	11.25	....
June 10	5.37	11.50	5.52	....	....
			A. M.		
June 11	....	12.14	6.25	12.40	6.42
June 12	....	1.03	7.16	1.32	7.33
June 13	....	1.56	8.08	2.28	8.30
June 14	....	2.50	9.05	3.27	9.30
June 15	....	3.47	10.03	4.28	10.37

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Sale of Commission Building—Paraiso.

CULEBRA, C. Z., May 28, 1910.

There will be sold at public auction, by the District Quartermaster at Pedro Miguel, C. Z., on the premises at 3 p. m., Wednesday, June 15, 1910, to the highest bidder for cash, the following Isthmian Canal Commission property: Building No. 28 at Paraiso. This building will be removed from the premises by the successful bidder within thirty (30) days from date of sale. The Government reserves the right to accept or reject any or all bids. For further information apply to the District Quartermaster, Pedro Miguel, C. Z.

C. A. DEVOL,
Chief Quartermaster.

Sale of Commission Buildings—Lower Caballo Viejo.

CULEBRA, C. Z., May 28, 1910.

There will be sold at public auction by the District Quartermaster at Gorgona, C. Z., at his office at 3 p. m., Wednesday, June 9, 1910, to the highest bidder for cash, the following Isthmian Canal Commission property: Buildings Nos. 132 and 158, Lower Caballo Viejo. These buildings will be removed from the premises by the successful bidder within fifteen (15) days from date of sale. The Government reserves the right to accept or reject any or all bids. For further information apply to the District Quartermaster, Gorgona, C. Z.

C. A. DEVOL,
Chief Quartermaster.

Sale of Commission Building—Paraiso.

CULEBRA, C. Z., May 28, 1910.

There will be sold at public auction, by the District Quartermaster at Pedro Miguel, C. Z., on the premises at 3 p. m., Wednesday, June 15, 1910, to the highest bidder for cash, the following Isthmian Canal Commission property: Building No. 11 at Paraiso. This building will be removed from the premises by the successful bidder within thirty (30) days from date of sale. The Government reserves the right to accept or reject any or all bids. For further information apply to the District Quartermaster, Pedro Miguel, C. Z.

C. A. DEVOL, *Chief Quartermaster.*

Sale of Commission Buildings—Bohio.

CULEBRA, C. Z., June 3, 1910.

There will be sold at public auction, by the District Quartermaster at Tabernilla, C. Z., on the premises, at 3 p. m., Friday, June 10, 1910, to the highest bidder for cash, the following Isthmian Canal Commission property: Buildings Nos. 82 and 84, Bohio. These buildings will be removed from the premises by the successful bidder within ten (10) days from date of sale. The Government reserves the right to accept or reject any or all bids. For further information apply to the District Quartermaster, Tabernilla, C. Z.

C. A. DEVOL, *Chief Quartermaster.*

LOST—On Monday, May 30, at Panama beach, a 32-degree Masonic ring. Finder please return to house 60, Corozal and receive reward.

MOVEMENT OF OCEAN VESSELS

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Allianca	P. R. R.	Monday	June 6
Colon	P. R. R.	Monday	June 13
Advance	P. R. R.	Saturday	June 18
Panama	P. R. R.	Friday	June 24
Allianca	P. R. R.	Thursday	June 30
Colon	P. R. R.	Thursday	July 7
Advance	P. R. R.	Tuesday	July 12
Panama	P. R. R.	Monday	July 18
Allianca	P. R. R.	Saturday	July 23
Colon	P. R. R.	Friday	July 29

CRISTOBAL TO NEW YORK.

Panama	P. R. R.	Sunday	June 12
Allianca	P. R. R.	Saturday	June 18
Colon	P. R. R.	Saturday	June 25
Advance	P. R. R.	Thursday	June 30
Panama	P. R. R.	Wednesday	July 6
Allianca	P. R. R.	Tuesday	July 12
Colon	P. R. R.	Tuesday	July 19
Advance	P. R. R.	Saturday	July 23
Panama	P. R. R.	Saturday	July 30
Allianca	P. R. R.	Thursday	Aug. 4
Colon	P. R. R.	Wednesday	Aug. 10

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

NEW YORK TO COLON.

Almirante	U. F. C.	Thursday	June 2
Prinz Aug. Wilhelm	H.-A	Saturday	June 4
Santa Marta	U. F. C.	Thursday	June 9
Orizaba	R.-M.	Saturday	June 11
Metapan	U. F. C.	Thursday	June 16
Prinz Joachim	H.-A	Saturday	June 18
Zacapa	U. F. C.	Thursday	June 23
Magdalena	R.-M.	Saturday	June 25
Almirante	U. F. C.	Thursday	June 30
Prinz Aug. Wilhelm	H.-A	Saturday	July 2
Santa Marta	U. F. C.	Thursday	July 7
Clyde	R.-M.	Saturday	July 9
Metapan	U. F. C.	Thursday	July 14
Prinz Joachim	H.-A	Saturday	July 16
Zacapa	U. F. C.	Thursday	July 21
Prinz Aug. Wilhelm	H.-A	Saturday	July 30
Prinz Joachim	H.-A	Saturday	Aug. 13

COLON TO NEW YORK.

Zacapa	U. F. C.	Friday	June 10
Magdalena	R.-M.	Wednesday	June 15
Almirante	U. F. C.	Friday	June 17
Prinz Aug. Wilhelm	H.-A	Tuesday	June 21
Santa Marta	U. F. C.	Friday	June 24
Clyde	R.-M.	Wednesday	June 29
Metapan	U. F. C.	Friday	July 1
Prinz Joachim	H.-A	Tuesday	July 5
Zacapa	U. F. C.	Friday	July 8
Prinz Aug. Wilhelm	H.-A	Tuesday	July 19
Almirante	U. F. C.	Friday	July 15
Prinz Joachim	H.-A	Tuesday	Aug. 2
Santa Marta	U. F. C.	Friday	July 22
Prinz Aug. Wilhelm	H.-A	Tuesday	Aug. 16

NEW ORLEANS TO COLON.

Abangarez	U.F.C.	Saturday	June 4
Atenas	U.F.C.	Saturday	June 11
Turrialba	U.F.C.	Saturday	June 18
Abangarez	U.F.C.	Saturday	June 25
Atenas	U.F.C.	Saturday	July 2
Turrialba	U.F.C.	Saturday	July 9

COLON TO NEW ORLEANS.

Turrialba	U.F.C.	Thursday	June 9
Abangarez	U.F.C.	Thursday	June 16
Atenas	U.F.C.	Thursday	June 23
Turrialba	U.F.C.	Thursday	June 30
Abangarez	U.F.C.	Thursday	July 7
Atenas	U.F.C.	Thursday	July 14

COLON TO BARBADOS, CALLING AT TRINIDAD.

Orotava	R.-M.	Tuesday	June 21
Magdalena	R.-M.	Tuesday	July 5

The next sailings of the Leyland Line will be as follows: *Colonian* June 10, and *Louisianian* June 20, for Tampa, via Kingston, Ja.

Hamburg-American steamers leave for New York at 10 a. m., and for Port Limon every Wednesday at 2 p. m.

Royal Mail steamers leave for New York early in the morning and passengers should be on board the night before.

United Fruit Company ships for New Orleans leave at 3 p. m., and for New York at 10 a. m.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, JUNE 15, 1910. No. 42.

The Canal Record

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Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer

NOTES OF PROGRESS.

Town Site at Lion Hill Abandoned.

Since the closing of the West Diversion at Gatun on April 25, which forced the Chagres River to discharge through the spillway of Gatun Dam at elevation 10 feet above sea level, the water has backed up for some distance and at present practically surrounds the low lying settlement of Lion Hill 3.62 miles south, encroaching in some instances upon the backyards of the villagers. The fear has been entertained that in case of a sudden freshet in the Chagres the town would be entirely flooded and lives and property thereby endangered. To avoid possibility of such an occurrence, it has been decided to proceed at once with the removal of all the houses in the settlement to the new town of Frijoles on the Panama railroad relocated line. There are about twenty-four houses at Lion Hill, and under the arrangement agreed upon, the Canal Commission will assume the expense of transporting by rail the building materials and the household effects of the villagers to the new location, the work to be done under the supervision of the railroad officials. The expense of reerecting the houses at New Frijoles will be borne by the owners.

Lion Hill will be the first of the settlements in the Gatun Lake region to be abandoned in anticipation of the filling of the lake. The locality has been known under its present name ever since the construction of the Panama railroad and mention of it occurs in Dr. F. N. Otis' "Handbook of the Panama Railroad," published in 1861.

The telegraph station at the Tiger Hill cut-off, the site of which was made untenantable by the flooding of the flats south of the Dam, has been moved to a point near the railroad bridge over the Gatun River.

The Sandpiper Relaunched.

The suction dredge *Sandpiper*, which was transferred from the Pacific Division to the Atlantic Division several months ago, was relaunched at the Cristobal marine shops on Saturday, June 11. The dredge formerly operated in the lower lock at Miraflores, but owing largely to the heavy character of the material in which it was working, its progress was slow. When the transfer was decided upon, the dredge was taken apart at the Balboa shipways and shipped across the Isthmus in sections. The most important alterations made to its machinery consists of the substitution of a different type of cutter and in hanging a detached suction pipe line beneath the ladder. It is expected that these improvements will increase the working efficiency of the dredge. When ready for service it will probably be put to work in the channel excavation between Mindi and Gatun.

Suction Dredge Arrives.

The new 20-inch suction dredge, built by the Ellicott Machinery Company of Baltimore for use in the hydraulic fill of Gatun Dam, arrived at Cristobal about 10.30 o'clock Saturday forenoon, June 11, in tow of the American Towing and Lightering Company's tug *Tormenter*. The tug left Baltimore with its tow on May 21, and arrived at Caimanera, Guantanamo Bay, Cuba, on June 3. The entire trip consumed 21 days. The weather conditions were favorable, except for a period of two days, when strong southerly winds were encountered, which compelled the tug to hove to for eight hours. The lower works of the dredge were strongly bulkheaded as a protection against heavy seas.

This is the second dredge built by the Ellicott Machinery Company on the same requisition. The first vessel was completed in November, 1909, and set out from Baltimore in tow of the tug *Tormenter* on December 9. While making the crossing, a heavy storm arose and the dredge sank, carrying down with it five men, including the chief engineer of the tug. The dredge was valued at about $158,000 and was fully insured. Work was at once begun on a second dredge which is practically a duplicate of the first. The latter will be known as *No. 86* and will be set at work at a point north of the Dam, east of the spillway.

Transportation Record at South End of Canal.

On June 9, 1910, from 6.30 to 11.30 a. m., forty-three 19-car Lidgerwood trains and two 35-car Western dump trains, loaded with spoil from Culebra Cut, were run out from the Canal at Pedro Miguel and transported to either Miraflores or Balboa dumps. During the same time forty-seven empty 19-car Lidgerwood trains and one empty 35-car Western dump train were run into the Canal from the above-mentioned dumps. This breaks all previous transportation records on the south end of the Canal for a half-day.

HIGH RECORD AT GATUN.

On June 6th, 3,998 Cubic Yards of Concrete Were Laid in the Locks.

All daily records for concrete laying in Gatun Locks were broken on Monday, June 6, when the official tally fell just two cubic yards short of 4,000. The actual output of 3,998 cubic yards represents the work of eight mixers, six in the construction plant and two in the auxiliary plant, and a total of 76 mixer hours, an average of 9½ hours per mixer. This indicates an average hourly output for each mixer of about 53 cubic yards, or at the rate of one cubic yard in a little over a minute through the operating day. The average output of the construction plant mixers on that date was 459 cubic yards per mixer, and of the auxiliary plant mixers, 547 cubic yards per mixer. The construction plant supplied 2,754 cubic yards of the total, and the auxiliary plant 1,094 cubic yards, while 150 cubic yards of large stone were laid in mass. Two of the mixers in the construction plant, Nos. 7 and 8, and one of the electric locomotives on the industrial road were out of commission on Monday.

In addition, the previous high record for a week's output was exceeded, and the 20,000-cubic yard mark, on the basis of a single week's work, was passed for the first time, the actual amount laid being 20,862 cubic yards. The daily average of 3,477 cubic yards was also the highest so far for a period of five or more days.

A statement of the week's work in detail follows:

	CUBIC YARDS.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
June 6	2,754	1,094	150	3,998
June 7	2,418	454	108	2,980
June 8	2,520	696	131	3,347
June 9	2,294	1,006	98	3,398
June 10	2,552	1,002	107	3,661
June 11	2,250	1,140	88	3,478
Total	14,788	5,392	682	20,862
Previously reported ...	....	....	....	437,461½
Grand total	....	....	....	458,323½

Two additional electric locomotives have been ordered for use on the industrial railroad. Ten are now employed and when all are in use represent the maximum of operation on the road, but usually one or two are laid up for repairs, impairing the movement of the concrete trains to some extent. The new locomotives will obviate this by being kept in reserve.

New steel gears have been ordered to replace the cast iron gears with which the concrete mixers were originally fitted. Experience has shown that the iron gears wear

NOTES OF PROGRESS.

(Continued.)

down rapidly under the heavy strain to which they are subjected.

Concrete Work in Pacific Lock Section.

A total of 6,577 cubic yards of concrete was laid in the locks at Pedro Miguel during the six 8-hour working days of the week ending June 11, an average of 1,096 cubic yards per day. The above yardage was produced by three mixers, two in the construction plant, and one in the auxiliary plant. The record in detail follows:

	CUBIC YARDS.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
June 6........	864	130	10	1,004
June 7........	900	274	....	1,174
June 8........	908	268	45	1,221
June 9........	768	270	8	1,046
June 10.......	904	254	4	1,162
June 11.......	796	174	....	970
Total........	5,140	1,370	67	6,577
Previously reported ..	....	....	....	143,100
Grand total..	....	....	....	149,677

In addition, one one-half cubic yard mixer laid 396 cubic yards during the week at the Miraflores Locks, increasing the grand total in the Pacific lock section to 150,073 cubic yards.

Repairs to Branch Commissaries.

It has been decided that the cost of repairs to branch commissaries will be assumed by the Commissary Department of the Panama Railroad Company, in the same manner as the Commissary Department has paid for similar expenses at the cold storage plant at Cristobal. Heretofore, the cost of such repairs has been defrayed from Commission funds.

Work at Toro Point.

The preparatory work in and around the breakwater camp on Toro Point is advancing. One of the type-18 bachelor quarters has been practically finished and men are occupying it. One of the barrack buildings for the laborers is nearing completion, and a number of other buildings are well under way.

An 85-foot section of the dock in Shelter Cove has been constructed, making it a little over 50 per cent completed. Further work on it has been temporarily suspended owing to lack of creosoted piling. Dredging operations in the harbor will be finished by the end of this week. There will be a uniform water depth of 16 feet, sufficient for any vessels having occasion to use the harbor. The total amount of material removed will aggregate about 50,000 cubic yards.

Arrangements for an ample water supply have been made, and the site for a reservoir selected. Water will be obtained from near the head of the Sweetwater River, at a point 195 feet above sea level, and for the present and until the reservoir is built, will be piped directly into the camp, a distance of about three and one-half miles. The reservoir, which will be located about a mile and one-quarter from the source of supply, will be about 118 feet above sea level, and will have a capacity of approximately 50,000,000 gallons. The elevations insure a good gravity flow.

Drilling at the quarry site has been commenced and eight drills are at work. Track work will be started, as soon as possible after July 1.

There has been some sickness in the camp, but this is not considered unusual. The ground for some distance around the houses has been cleared; the low places are kept oiled, and as soon as all the men are occupying screened-in quarters, it is expected the sick rate will diminish.

Gatun Water Works in Operation.

The new water works system at Gatun was placed in service on May 28. The pumping station was practically completed in April, but the reservoir had not filled sufficiently to permit starting the pumps. On May 15, the water reached elevation 50, and on May 28, the day operations were begun, it was at elevation 55.4, at which time there were about 280,000,000 gallons of water in the reservoir. On June 7, the water was still rising and had attained elevation 57.9. The capacity of the reservoir at elevation 70 is 670,000,000 gallons. The present consumption is about 2,000,000 gallons daily.

The equipment at the pumping station, which is located close by the dam, consists of two 12-inch 3-stage horizontal turbine pumps, each direct-connected to a 175-horsepower motor operated from the Gatun power plant. Each pump is capable of handling at its highest efficiency and its rated speed, 1,400 gallons of water a minute against a total friction and gravity head of 300 feet. The vertical suction lift is 12 feet. The suction pipe is 14 inches in diameter and the delivery pipe 12 inches in diameter. One of the pumps will be kept in reserve.

There is also a 12-inch Venturi meter, provided with a complete registering equipment and a chart recorder for the continuous recording of the rate of flow in gallons per hour. The meter has a maximum capacity of 4,000,000 gallons in 24 hours, and a minimum registering capacity of 800,000 gallons in 24 hours.

The plant is also equipped with a 5-ton traveling crane for use in moving heavy objects.

The watershed of the reservoir has been cleared for some distance back, and but little vegetable matter is present in the water. The filtration plant has not yet been installed, and the water from the reservoir main is used for domestic purposes only. Condensed water is furnished the people for table use.

The old pumping station on the bank of the Gatun River has been abandoned, and the equipment will be removed at an early date. The site is now under water and it will be necessary to employ a barge to transfer the machinery. The old equipment consisted of one motor-driven Alberger turbine pump having a 10-inch suction and an 8-inch discharge, with a capacity of 1,200 gallons per minute; one Blake Underwriter's fire pump, with a capacity of 750 gallons per minute; one Gardner pump, with a capacity of about 600 gallons per minute, one Davidson pump, with a capacity of about 350 gallons per minute, and one Fox pump, with about the same capacity as the Davidson. The Alberger pump was operated by a 300-horsepower motor, but the other pumps were driven by steam generated by three 80-horsepower boilers fed by fuel oil.

It is proposed to use the Alberger pump as an auxiliary in connection with hydraulic work at the lock site. The cleaning of equipment is accomplished hydraulically, and for this and similar purposes a large quantity of water is consumed. It is expected that the demand on the reservoir during the dry season will be too heavy, in which case, the above pump can be brought into service by furnishing an auxiliary supply from Gatun Lake for hydraulic purposes only.

PRICE OF DYNAMITE.

The price paid per pound for dynamite each year since 1904, and the amount purchased, are shown in the following statement:

YEAR.	AMOUNT. PRICE PER POUND.				
	30 per cent.	40 per cent.	45 per cent.	60 per cent.	75 per cent.
1904—					
Pounds..............................	....	....	....	250,000	250,000
Cents..............................	....	....	....	13.5	14.25
1906*—					
Pounds..............................	....	700,000 400,000	....	100,000 100,000 100,000	....
Cents..............................	....	11.25 11.10	....	13.00 12.75 12.60	....
1907—					
Pounds..............................	20,000	....	1,517,000 700,000 50,000 1,200,000	850,000 150,000 550,000	50,000
Cents..............................	9.75	....	10.45 10.50 10 55 10.70	12.00 12.04 12.25	13.50
1908—					
Pounds..............................	45,000 45,000	....	2,200,000 2,000,000	2,532,000	....
Cents..............................	10.25 10.45	....	11.75 11.45	13.00	....
1909—					
Pounds..............................	30,000	....	5,740,000	2,500,000	....
Cents..............................	9.80	....	10.70	11.70	....
1910—					
Pounds..............................	....	....	6,125,000	3,957,100	....
Cents..............................	....	10.20	10.60	11.60	....
1911†—					
Pounds..............................	....	....	8,540,000	5,187,000	....
Cents..............................	....	....	11.7	12.7	....

*No dynamite was purchased in 1905. †Estimated quantities for 1911. Under the contract the Commission is not required to purchase any dynamite, but may increase its estimated requirements by 50 per cent if it so desires.

WORK OF STEAM SHOVELS.

Record of Performances by Central Division Machines During May.

During the month of May, the total amount of material excavated in the Central Division was 1,352,314 cubic yards, of which 391,691 cubic yards were classified as earth and 960,623 cubic yards as rock. Of this quantity, 1,331,758 cubic yards were removed by steam shovels, 4,365 cubic yards by hand, and 16,191 cubic yards by contract.

The high record of the month was made by shovel No. 211, working 25 days in the Empire District, which excavated 44,500 cubic yards of rock. The second best record for the month was made by shovel No. 224, working 25 days in the Culebra District, which excavated 41,672 cubic yards of rock.

The best record for a shovel of the 70-ton class was made by shovel No. 217, working in the Chagres District, which excavated 34,892 cubic yards of earth in 25 working days.

Shovel No. 217, in the Culebra District, made the high record for one day by excavating 3,477 cubic yards of rock on May 5. Shovel No. 111, working in the Chagres District, excavated 1,500 cubic yards of earth on May 6, being the high record for one day for a 70-ton shovel during the month.

Except where noted, monthly records are computed by place measurement, while the daily records are based on car measurement. The best records for the month and for one day in each district are shown below:

BEST RECORDS FOR THE MONTH.

CHAGRES DISTRICT.

Shovel No.	Cubic Yards. Earth.	Cubic Yards. Rock.	Cubic Yards. Total.	No. of days at work.
127	34,894	....	34,894	25
114	31,303	....	31,303	24

EMPIRE DISTRICT.

Shovel No.	Earth.	Rock.	Total.	No. of days at work.
211	....	44,500	44,500	25
210	....	37,144	37,144	25

CULEBRA DISTRICT.

Shovel No.	Earth.	Rock.	Total.	No. of days at work.
224	....	41,672	41,672	25
208	....	40,539	40,539	24

BEST RECORDS FOR ONE DAY.

Shovel No.	Locatiou.	Date.	Character of material excavated.	Cubic yds. excavated.
111	Chagres..........	May 6.	Earth..........	1,500
209	Chagres..........	May 3.	Earth..........	1,490
111	Chagres..........	May 7.	Earth..........	1,450
211	Empire..........	May 12.	Rock..........	2,432
211	Empire..........	May 11.	Rock..........	2,391
210	Empire..........	May 23.	Rock..........	2,165
217	Culebra	May 5.	Rock and earth	3,477
217	Culebra	May 6.	Rock and earth	3,249
208	Culebra..........	May 23.	Rock..........	3,059
231	Pedro Miguel....	May 26.	Rock..........	2,850

Cement Shipments.

During the month of April, a total of 97,050 barrels of cement in barrels was received on the Isthmus for the Atlantic Division, and a total of 46,500 barrels in bags for the Pacific Division.

In May, the total shipments of cement received by the Atlantic Division aggregated 82,440 barrels in barrels; by the Pacific Division, 35,160 barrels in bags. These deliveries were made in one trip each of the steamers *Ancon* and *Cristobal*, with the exception of 5,000 barrels brought by the *Colon*, arriving at Cristobal on May 1.

The Norwegian steamer *Nordkap* arrived at Cristobal on June 10 with a cargo of 18,960 barrels of cement in barrels for the Atlantic Division, and 9,760 barrels in bags for the Pacific Division. This is the second chartered vessel to arrive at Cristobal with a cement cargo since the extension of concrete operations in the locks made increased deliveries necessary.

West Culebra Improvements.

The laying of 324 feet of 6-inch sewer pipe, with necessary Ys and manholes, and 325 feet of 2½-inch galvanized iron pipe, with Ts fitted with corporation cocks for each lot, to take care of the houses on the west side of Second Street in West Culebra has been authorized. Two fire plugs for standard fire hose will also be installed.

Nombre de Dios Sand Shipments.

Forty barge loads containing 22,484 cubic yards of sand were shipped from Nombre de Dios to Gatun in May. The dredge *Nombre* excavated 9,200 cubic yards, while the locomotive crane took 13,284 cubic yards. During the month 400 feet of new track were laid and two and one-half acres of ground cleared for the extension of operations.

Ancon Quarry Operations.

Following is a statement of the rock crushed at the Ancon quarry plant during the weeks ending June 4 and June 11, respectively:

Date.	Hours worked.	Cubic Yards.
May 30 (Holiday)................	....	....
May 31....................	6:30	276
June 1....................	6:20	1,608
June 2....................	4:25	1,188
June 3....................	6:40	1,764
June 4....................	7:25	2,124
Total....................	31:20	6,960
June 6....................	6:20	1,512
June 7....................	3:30	864
June 8....................	4:55	1,500
June 9....................	4:15	1,356
June 10....................	5:35	1,512
June 11....................	4:00	1,008
Total....................	28:35	7,752

Panama and Colon Water Service.

The status of the water collections in the Department of Public Works shows a satisfactory condition. But four bills are outstanding against water consumers and these take into account all bills unpaid since the water rates went into effect in the city of Panama on June 30, 1906, and also since the water rates became effective in the city of Colon. Two of the bills are against consumers in Colon and two in Panama, the total aggregating $30.90. Under existing regulations water cannot again be turned on at these taps until the old accounts have been settled, and it is therefore expected that eventually they will be paid.

The contracts in force in the department on April 30 numbered 2,601, as compared with 2,541 on March 31. For the quarter ending March 31, the total collections in Panama up to June 8 aggregated $16,060.90, and in Colon, $19,451.65. The collections in Colon for the quarter exceeded the guaranteed amount by $1,951.65, but in Panama they fell slightly behind the $16,400 required. The public parks in Panama are now furnished with water free, but the water supplied the city park in Colon is paid for by the municipality at the current rate.

The total consumption of water for private use in Panama for the quarter ending March 31 was 62,404,500 gallons, and in Colon, 51,302,952 gallons, divided as follows: Private parties, 39,437,180 gallons; Panama railroad, 7,948,740 gallons; Canal Commission, 3,917,032 gallons. The public consumption (hydrants, fountains, etc.) was 25,362,150 gallons, and in Colon, 15,543,598 gallons. In Colon, private parties are charged a rate of 40 cents per 1,000 gallons, and the Panama railroad a rate of 30 cents per 1,000 gallons. In Panama, a uniform rate of 25 cents per 1,000 gallons obtains. The greater proportion of water users take advantage of the discount. The lapse of the discount period does not affect the adjustment of Panama railroad water bills in Colon, but in Panama no exceptions are made.

The Rio Grande reservoir was considerably higher on June 1 than it was on the same date last year, and the recent heavy rains over the watershed have caused a steady rise. The Brazos Brook reservoir has also risen appreciably.

Mechanical Track Shifting.

A statement of tracks raised and thrown by Central Division machines during the month of May follows:

Shifter No.	Location.	Amount.
		Feet.
No. 5..............	Taberuilla	146,600
No. 6..............	Mamei................	15,600
No. 7..............	Santa Cruz, relocation	131,602
No. 1..............	Lirio coal trestle......	9,269
No. 8..............	Miraflores	141,815
No. 2..............	Balboa................	182,100
Total..............	....	*626,986

*Or 118.74 miles.

The first shipment of fifty of the 300 steel, side dump, 19-yard cars ordered for the Canal work has been received at the Cristobal shops of the Panama railroad where the cars will be erected.

STATEMENT OF CLASSIFIED EXPENDITURES TO APRIL 30, 1910.

	Department of Civil Administration.	Department of Sanitation.	Department of Construction and Engineering.	General Items.	Total.
Total to June 30, 1909..........	$3,427,090.29	$9,673,539.28	$69,622,561.42	$78,022,606.10	$160,745,797.09
1909—					
July....................	64,209.14	140,580.90	1,593,250.14	274,418.57	2,072,458.75
August....................	49,771.51	150,123.15	1,709,471.48	242,189.42	2,151,555.56
September....................	57,868.94	153,406.14	1,911,262.84	217,335.42	2,339,873.34
October....................	61,740.56	159,391.49	2,022,010.34	431,288.66	2,674,431.05
November....................	65,088.00	156,646.64	1,853,495.96	229,497.97	2,304,728.57
December....................	59,076.20	150,401.41	2,102,637.61	336,668.91	2,648,784.13
1910—					
January....................	82,756.89	163,379 71	2,673,797.41	412,915.15	3,332,849.16
February....................	59,251.33	136,941.46	2,126,328.26	*195,770.76*	2,126,750.79
March....................	60,522.35	136,390.97	2,344,711.03	392,015.14	2,933,639.49
April....................	62,722.26	149,375.00	2,611,279.63	460,945.16	3,284,322.05
Total....................	$4,050,097.97	$11,170,176.15	$90,570,806.12	$80,824,109.74	$186,615,189.98

4TH OF JULY CELEBRATIONS.

Plans for the Events at Ancon and Cristobal are Well Under Way—Committees.

A meeting of the Executive Committee of the Fourth of July celebrations to be held at Ancon and Cristobal took place at Ancon Saturday, June 11, when reports were submitted by the chairmen of the various committees having the arrangements in charge.

The programs for the two celebrations were read and adopted. The allotments made the various committees aggregate $4,350, with the understanding that if the state of funds permit, the amusement and decoration committees would be furnished additional amounts.

The chairman of the finance committee reported cash subscriptions to the amount of $1,442.50. The unexpended balances from the celebrations last year were made available. About $2,000 remain to be raised. Many of the departments have not yet been heard from, and it is requested that all those having subscription blanks in their possession complete the canvass and turn in the monies at an early a date as possible, in order that the committee's plans may not be delayed.

Permission has been granted the Cristobal committee to use such railroad and Commission equipment as may be necessary. This insures a repetition of the water spectacle in Colon Harbor, which formed a feature of the Cristobal celebration last Fourth.

The celebrations will be advertised by posters, and separate programs for the two celebrations will be distributed on the grounds on the Fourth. Special railroad passes will be furnished to all gold employes through the heads of the various departments and divisions.

An order for fireworks has been placed with the Pain Fireworks Company, this feature involving an expenditure of about $1,300. The places for holding the athletic events are to be selected by the local committees. The Marine Band will furnish music at Ancon, and the I. C. C. Band, at Cristobal.

Chairman Rousseau of the Executive Committee has announced the following committees on arrangements:

Finance—Edward J. Williams, Chairman; H. H. Rousseau (ex-officio), M. H. Thatcher, Maj. Chester Harding, John Burke, Maj. Edgar Jadwin, Lt.-Col. W. L. Sibert, Maj. S. D. Butler, W. H. May, J. A. Smith, T. L. Clear, Capt. C. Nixon, H. L. Stuntz, Lorin C. Collins, M. C. Rerdell, R. H. Wardlaw, Lt.-Col. C. A. Devol, A. L. Robinson, S. B. Williamson, Lt.-Col. D. D. Gaillard, Col. W. C. Gorgas, Maj. Eugene T. Wilson, Geo. A. Greenslade.

Amusement—Maj. Chester Harding, Chairman. Cristobal—F. G. Smith, Chairman; Clement Walker, B. J. Dawson. Ancon—W. G. Comber, Chairman; J. St. Clair Hunt, E. A. Putnam, T. S. Booz, A. O. Ludwig.

Transportation—J. A. Smith, Chairman; A. K. Stone, R. W. Bergin, A. S. Jussen, R. L. Mock, H. C. Owen, A. T. Simpkins, F. Y. Thompson.

Marines—Capt. W. H. Parker, Chairman; Lieut. E. H. Conger, Capt. L. Tucker, First Lieut. C. A. Lutz, Surgeon J. G. Zeigler.

Decorations—Capt. C. Nixon, Chairman. Cristobal—A. W. Schutte, Chairman; James Dailey. Ancon—W. H. McCormick, Chairman; C. W. Boxer.

Fireworks—Lieut. R. E. Wood, Chairman; W. F. Shipley, H. L. Hardwick, Corporal Carr, Sam White, Ben Litt, W. K. Morris, Geo. Buchen.

Dance—Surgeon J. C. Perry, Chairman; Cristobal—F. K. Pilson, Robert Beverly, H. S. Newcomb. Ancon—Hugh S. Hunter, A. M. Colegrove, J. C. Earle.

Publicity—Tom M. Cooke, Chairman; John O. Collins, W. M. Garrett.

Music—C. E. Jennings, Chairman; Cristobal—Oliver Kimball. Ancon—Lieut. E. H. Conger.

Fourth of July Athletic Program at Ancon.

The athletic committee for the Fourth of July celebration to be held at Ancon have arranged the following program of events, open to any one desiring to enter the contests:

MORNING EVENTS.

Track Events—

*100-yard dash.
*220-yard dash.
*440-yard dash.
*880-yard run.
*One mile run.
*75-yard dash (Boys under 16 years).
*One-half mile relay (Boys).
*One mile relay (Men) six men to enter, four to 440 yards each.

Field Events—

*Pole vault.
*Shot put (12-pound.)
*Running high jump.
*Running broad jump.

Tug of war, ten to enter, eight to pull on team if more than two teams compete. First prize $30, second prize, $15.

Greased pole contest. $20 and a pig.

AFTERNOON EVENTS.

Sack race, 75 yards. $10, $5, and $2.

Pony race, ¼-mile (Children.) $25 and $10.

Shoe race. $10, $3 and $2.

Equipment race. $10 and $5.

Obstacle race. $10 and $5.

Hose coupling contest, at least four to compete (Volunteer Hose Companies.) $75, $50 and $25.

Wall scaling contest (Marines.) $40 and $10.

Baseball throw for distance. $5.

Circling bases for time. $5.

In addition, there will be a lawn tennis contest for men, and one for ladies, at the Tivoli tennis court, two or more teams to compete in each. Suitable trophies will be awarded. Applications for entries in these events should be made to Mr. B. C. Poole, District Quartermaster, Ancon, C. Z.

Events marked with a * are regular events, and the winners will receive gold, silver and bronze medals.

An entrance fee of 25 cents will be charged for each entry. Entries close Thursday, June 30, 1910.

A suitable trophy will be offered to the club team scoring the highest number of points.

Winners of points to count for team trophy must be entered as representing some club.

Mail entry application blank to Mr. F. G. Swanson, Clerk of Course, Gorgona, C. Z.

Aquatic Events at Cristobal.

Sail boat race, triangular course. Distance about five miles Prize, pennant.

U. S. Navy steam cutter race, triangular course in Limon Bay, about five miles. Launches, *Ruth*, 36 feet; *Mary*, 33 feet. Prize, pennant.

Aquatic boxing contest, four rounds. A. A. U. rules. Prize, $25.

Life boat race. Cristobal Point to Dock No. 4 and return. Four oared, single scull, and coxswain. Prizes, $20, $10 and $5, for five or more entries.

Tugboat race. Triangular course in Limon Bay, about five miles. Tugs *Balboa* and *De Lesseps*. Prize, pennant.

Dory race. Cristobal Point to Dock No. 4 and return. Four oared, double scull. Prizes, $15, $10 and $5, for five or more entries.

Class 1, gasoline boat race. Triangular course in Limon Bay, about five miles. Length of boats 28 to 38 feet. Open race. Prize, pennant.

Clapet race. Distance five miles. U. S. Clapets Nos. 2, 4, 12, 14. Finish opposite Cristobal Point. Prize, $25.

Relay swimming contest. Four men. Prize, gold medals.

Class 2, gasoline boat race. Triangular course in Limon Bay, about five miles. Length of boats, less than 28 feet. Prizes, $15 and $5, for three or more entries.

Swimming race. Distance, 100 yards. Prizes, gold and silver medals.

Fancy diving contest. Prize, gold medal.

Greased horizontal spar. Sixty-foot spar supported on lighter in harbor. Distance, to leave lighter, go to end of spar and return, supported by spar during entire time. Prize, $10.

Boat parade, illuminated. Prize, $15.

Prize will be awarded to boat showing the best day decoration, with colors, palms, flags, etc.

All events free for all except where otherwise stated.

In case of team events, captain will sign blank for entry.

Entry to be made by number of event.

Entries close June 30.

During the running of various events, the tug *Gatun* will act as patrol boat.

If entering sailing, rowing or gasoline boat race give dimensions and type of boat.

Address all correspondence for information or entry blanks to the Chairman of the Aquatic Committee, Dock 13, Cristobal.

President Mendoza Visits Gatun.

Acting President Mendoza, accompanied by Governor Neira of the Province of Colon, and other officials of the Republic of Panama, visited the works at Gatun on Wednesday, June 8. The party left Colon in the private car La France attached to the regular passenger train arriving at Gatun at 10.50 a. m. The car was then switched over to the yard tracks and the visitors taken to various parts of the work, including the Dam, spillway, Locks and Mindi. At 1 p. m., President Mendoza took luncheon with Lieut-Col. Sibert, and at 2 o'clock the party returned to Colon. On Thursday, June 9, the presidential party left on a trip along the north coast as far as the San Blas border making stops at Porto Bello and Nombre de Dios, reaching Colon again Friday night. The tug *Porto Bello* with its crew was placed at the service of President Mendoza and party for the trip. On Sunday, Monday and Tuesday of last week, the President was a guest of the citizens of Colon, and on Sunday evening he was given a banquet with 175 covers at the Washington Hotel.

Royal Mail Steamship Magdalena Aground.

A wireless message was received at the office of the Royal Mail Steamship Company in Colon on Tuesday morning, June 14, from the steamship *Magdalena*, stating that the vessel had gone aground on a sand bar in Cartagena Bay, about five miles from the town of Cartagena. Upon request, the Atlantic Division tug *Reliance*, which was at Dock 13 making ready to depart for Porto Bello, was sent to the *Magdalena's* relief, leaving the Royal Mail dock in Colon at 1 p. m., with four extra hawsers, one steel and three Manila, spare anchors, etc., on board. The locality where the vessel grounded is about 255 miles from Colon, and it is expected that the trip of the *Reliance* will consume about 16 hours. The wireless advices from the *Magdalena* conveyed the information that the ship was in no immediate danger. The boat was scheduled to leave Colon for New York on Wednesday, June 15.

Increase in Tuition Rates.

At the meeting of the Isthmian Canal Commission held in Culebra on Thursday, June 9, a resolution was adopted increasing the rates of tuition in the Canal Zone graded schools and high school. At present the rate for children of nonresidents is $2 a month in the graded schools and $4 a month in the Cristobal high school. The new rate, which becomes effective on October 1, 1910, the beginning of the next school year, will be $4 a month to children of nonresidents in the graded schools, and $8 a month in the Cristobal high school. The attendance of tuition-paying scholars ranges from 4 to 5 in the high school, and from 30 to 40 in the graded schools.

Steam Shovel and Dredgemen.

Local No. 19, I. B. of S. S. and D. M., will hold its regular meeting Sunday, June 19, 1910, at 2.30 p. m., at the I. C. C. lodge hall, Empire. All members are requested to be present. WALTER P. TUDOR,
Secretary and Treasurer.

SOCIAL LIFE OF THE ZONE.

Women's Clubs.

At the tenth biennial meeting of the General Federation of Women's Clubs held in Cincinnati in May, the delegate from the Canal Zone Federation presented, on behalf of her organization, a gavel made from one of the Panama railroad ties that had been displaced in the construction of the Canal. Mrs. Philip North Moore was reelected president of the General Federation for the ensuing two years.

The Gatun Woman's Club is continuing its regular weekly meetings during June, in response to the general wish of the members. The meeting on Friday afternoon, June 10, was held at the home of Mrs. Mark Martin. The program, under the home department, consisted of a contest of household hints and suggestions, following which reports and items of interest from the Cincinnati biennial were read. At each meeting the refreshments served are prepared from a recipe by some member of the department which has the meeting in charge. The next meeting will be held at the home of Mrs. N. C. Story on Friday, June 17, with the literary department in charge. The last meeting in the month will be under the direction of the social department.

The Empire Woman's Club has suspended meetings for the summer, but under the auspices of the home department, a special meeting will be held at the lodge hall the first week in July, when the club will entertain the children of the club members and others. The regular meetings of the club will be resumed in September.

The meetings of the Gorgona Woman's Club will be resumed on the last Thursday in September.

Church Notes.

The Rev. Gregor Samuel Georges, archdeacon of the Syro-Chaldean Church in Dessin Elasse, Kurdistan, is a visitor on the Isthmus, having arrived last week from South America, on his way to New York. The archdeacon was present at the morning service at St. Luke's Church, Ancon, on Sunday, June 12, and made a short address. The object of his journey is to raise funds for the support of his church, which is a branch of the orthodox church of the East. He is accompanied by one of the deacons of the church.

The ladies of the Roman Catholic Club at Las Cascadas held a farewell reception in honor of Miss Mary Christ at the home of Mrs. Charles Chunk on Friday evening, June 10. An informal program was given and a pleasant evening was spent. Miss Christ is leaving for her home in Ohio.

A special service for the Odd Fellows Club, Culebra, was held at the lodge hall on Sunday evening, June 12, Rev. A. A. Nellis officiating. On Sunday evening, June 26, the Masons in Cristobal will hold a service in honor of St. John's Day.

The monthly entertainment and general reception of the Empire Christian League was held in the chapel on Wednesday evening, June 1. A musical program was given, consisting of piano selections by Mrs. W. H. Needham and Mr. Carl Schwarzbach; vocal solos by Madame A. Faure, Mrs. A. O. Ludwig, Mr. A. B. Dickson, and the Empire Male Quartet. During the reception refreshments were served, consisting of salads, sandwiches, cake and coffee. The chapel was decorated with palms and cut flowers. The entertainment was in charge of Mr. W. H. Hall, and the president of the League, Mr. W. W. Warwick, presided at the short business meeting which preceded the program. There were 80 persons present.

The meeting of the Ladies' Aid Society of the Empire Baptist church was held at the home of Mrs. W. H. Butler on Wednesday afternoon, June 8. The efforts of the society are directed toward the raising of funds to furnish the manse in connection with the Baptist church for colored people in Colon. A bazaar for the sale of fancy work is proposed.

Miscellaneous Events.

The Gorgona Dancing Club will hold a "Hard Times" dance at the clubhouse on Saturday evening, June 18.

Canal Zone Lodge No. 3, I. O. O. F., of Culebra, entertained its members and their friends, at the second anniversary of its institution, in Kangaroo hall, Empire, on May 23 The following program was rendered: Duet, Messrs. Dickson and Moore; vocal solo, H. W. Dohrmann; instrumental solo, Miss Smith; remarks, C. H. Mead; selection, Empire quartet, Messrs. Dohrmann, Dickson, Moore and Connors; remarks, A. B. Nellis; vocal solo, A. Sales; remarks, W. W. Johns; selection, Empire quartet. After the entertainment refreshments were served, and the evening closed with an informal dance.

High School Entertainments.

The closing of the first year of the Canal Zone High School will be marked by a series of evening entertainments, three in number, when the cantata "Pauline" will be given by the school at the Commission clubhouses as follows: Tuesday, June 21, Cristobal; Friday, June 24, Gatun; Friday, July 1, Empire. The proceeds of the entertainments will be devoted to the purchase of a piano for the school.

Two Hundred Marines Return.

Two hundred United States Marines, under the command of Capt. W. H. Parker, returned from Bluefields, Nicaragua, on the *Prairie* on Tuesday, June 14. This detachment was the last one ordered to Bluefields, sailing from Colon on the *Paducah*, June 8. The men did not land there, but were immediately transferred to the *Prairie* for the return voyage. The first detachment, under the command of Maj. S. D. Butler, is still at Bluefields.

Supervision of Private Schools.

The Superintendent of Schools has recommended that his office be given supervision over the private schools in the Canal Zone to the end that uniformity in regard to hours of attendance and other details may be brought about. At present the regulations in some of these schools, especially those for colored children, pertaining to punctuality in attendance are reported to be lax. Scholars frequently come in late, which sets a bad example to others and tends not only to a demoralization of the school discipline, but also detracts from the value of the studies. Moreover, the lack of proper administrative measures in the private schools for colored children has greatly hampered the successful operation of the colored public schools in the Zone. In a number of instances pupils have left the Zone public schools to go over to the private schools, solely to secure freedom from disciplinary restraints. This has tended seriously to interrupt and hamper the routine of the Zone schools.

Under the proposed supervision it is believed that these defects can be easily remedied and much better results obtained. The plan does not involve any interference in the sectarian features of the private schools or their curriculums.

PERSONAL.

Mr. Joseph Bucklin Bishop, accompanied by Mrs. Bishop, sailed from Cristobal on the *Panama* Sunday, June 12, for an absence of two months in the States.

Lieut. Walter D. Smith, accompanied by Mrs. Smith, returned on the *Panama* Monday, June 6, from a vacation in the States.

Mr. Richard O. March of Illinois, who has been appointed Secretary of the American Legation at Panama, accompanied by Mrs. March, sailed for the Isthmus on the *Ancon*, which left New York on June 10.

Mr. George T. Weitzel, who has been Secretary of the American Legation at Panama for the past two years, left on the *Panama* Sunday, June 12, for New York. He was recently appointed second secretary of the American Embassy at Mexico City.

Missing Men.

Any one having knowledge of the whereabouts of James Cochren, who was employed as a machinist at Empire up to February 11, 1910, is requested to communicate with William H. Witmer, jr., Chief of Records, Cocles Tribe No. 3, Improved Order of Red Men, Empire, C. Z.

The present address of George Robert McAdams, who is believed to be on the Isthmus, is desired by his mother, Mrs. L. A. McAdams, No. 94 Jefferson Street, Oak Cliff, Dallas County, Texas.

The American Legation is in receipt of inquiries for Miss V. M. Walker of New York City, Julius Spagat, a barber from the same place, and John Earl Owen. Any one having knowledge of them is requested to advise the Secretary of the American Legation, Panama.

If Eugene Clark, machinist, who left the service of the Canal Commission in November, 1909, and John F. Gray, machinist, who left the service in February, 1910, will apply to Postmaster Tannehill at Ancon post-office, they will receive information of value.

Rebuilding Nombre de Dios.

The work of rebuilding the native houses destroyed by fire at Nombre de Dios on April 8 was begun about three weeks ago by a force of men from the Quartermaster's Department. Eighteen buildings have been completed to date. The material used in reconstructing the stores and dwellings is transported from Cristobal to Nombre de Dios by barges, and the bulk of it was taken from buildings dismantled at Gorgona, Culebra and other points in the Zone.

Since the beginning of the year the Commission has furnished the reading room at Taboga Sanitarium with the following magazines: *Harper's*, *Scribner's*, *Cosmopolitan*, *McClure's*; Weeklies—*Collier's*, *Leslie's*, *Harper's*; Newspapers, both daily and Sunday editions—New York *Sun*, St. Louis *Globe-Democrat*, Portland *Oregonian*.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

The statistical report of the clubhouses for the month of May, 1910, is as follows:

Total membership	1,555
Total number of bowling games	6,547
Average per day	249
Total number of pool and billiard games	17,804
Average per day	679
Number of tournaments in progress	8
Number of tournament players	126
Total income from soda fountains	$2,783.52
Average per day	$93.13
Number of different men using gymnasiums	302
Number men in systematic gymnasium work	85
Total number of men using gymnasiums	1,565
Average per day	72
Number enrolled in chess and checker clubs	80
Number enrolled in glee clubs	28
Number enrolled in dramatic and minstrel clubs	60
Number enrolled in camera clubs	75
Number enrolled in orchestras	8
Number enrolled in Bible clubs	111
Number enrolled in educational classes	54
Number of members of libraries	704
Total number of books withdrawn	1,957
Number of religious meetings	8
Average attendance	38
Number of lectures	10
Average attendance	15
Number imported entertainments	10
Average attendance	196
Number of local entertainments	9
Average attendance	206
Number of functions outside association management	15
Average attendance	283
Number afternoons for women	37
Average attendance	9
Number of evening functions to which women were invited	17
Average attendance of women	59
Number of committees	21
Different men on committees	112
Number of men called on in hospitals	140
Number of letters written at public tables	5,955
Average per day	192
Total attendance at buildings	62,360
Average per day	1,936
Number of beds used during the month	309

BOYS' DEPARTMENT.

Number of members	79
Number of afternoons for boys	66
Total attendance in systematic gymnasium work	671

CULEBRA.

An interesting chess contest took place on Tuesday, June 7, between Mr. C. M. Wilson and Mr. E. J. Vogel. After two and one-half hours' struggle, the games were declared a draw, each contestant winning three and losing three. Mr. Vogel immediately issued a challenge to meet all comers at simultaneous chess on Tuesday evening, June 14.

A meeting was held on Monday evening, June 13, to organize a literary club.

The phonograph has been equipped with some renewed apparatus, and will be supplied with new records soon.

A committee of five has been appointed to supervise and develop the various bowling activities during the rainy season. The members of the committee are: Messrs. E. J. Lamster, E. P. Case, W. J. Huson, F. F. Dougherty, and J. C. Cushing.

EMPIRE.

An unusual game was bowled between Perry Brown and "Dusty" Huson on June 6. Each started with a split in the first inning and both struck out from the third inning to the end of the game, Brown's score being 246 and Huson's 223, one pin remaining standing in Huson's last inning. Other scores during the week were: Edwards 236, Eurle 247, 211, Gorham 212, W. H. Hall 210, G. E. Gustavson 213.

At the members' smoker on Friday, June 10, "Bill" Dawson and Company presented the sketch "Halley's Comet;" the Empire Male Quartet rendered several selections, and the audience joined in popular songs led by Mr. Herring of Cristobal. An address was made by Mr. Maurice H. Thatcher, Head of the Department of Civil Administration.

A literary society was organized on June 7, with a membership of 20. It is planned to admit ladies as associate members and to give a literary and musical program at least once a month, which will be open to the public. In addition, there will be a debate probably once a week, and opportunity will be given for three-minute speeches on various topics.

On the handball court, June 6, Smith and Dickson defeated Ludwig and Early in two out of three games. Score, 14—21, 21—3, 21—17.

On Saturday evening, June 11, an informal reception was given to Mr. and Mrs. W. H. Hall, who are leaving the Isthmus after a stay of six years.

Activities for this week are as follows: Gymnasium class, handball, basketball, etc., Monday and Thursday; literary society, Friday; ladies' day for bowling, Tuesday and Thursday; boys' gymnasium class, Monday, Wednesday and Saturday. Pool, billiards and bowling continue as usual.

GORGONA.

The following scores were rolled between the Gorgona and Bas Obispo bowling teams, Tuesday night, June 7: Gorgona—823, 844, 859; Bas Obispo—723, 770, 682.

The following games were rolled between Gatun and Gorgona Saturday night, June 11:

Gatun.	*1st.*	*2d.*	*3d.*	Gorgona.	*1st.*	*2d.*	*3d.*
Harrington	159	194	145	King	165	172	182
Dalton	163	176	106	Otis	161	167	181
Barlow	179	203	162	Roper	156	160	157
Warr	139	135	132	White	165	182	171
Barte	171	181	160	Hinkley	131	137	136
Totals	811	889	705	Total	798	818	827

The Gorgona Y. M. C. A. Minstrels will give their third annual performance at the Y. M. C. A., Friday night, June 17, at 8.15 o'clock. The cast of characters and program will be as follows:

Cast of characters—Interlocutor—E. C. Briggs; bones—E. L. Emery, W. H. Roberston; tambos—L. P. Robitoy; E. R. Thompson; circle—W. J. Wright, E. L. Burford, J. E. Ridge, L. R. Denst, R. C. Deavours, W. H. Jones, C. E. Angel, J. S. Foote, T. S. Booz. Olio—Mouologue, J. S. Ridge; sketch, Robitoy and Burford; dancing, William Zeliniski; sketch, E. L. Emery; Gorgona Quartet in schoolroom scene—W. J. Wright, E. R. Thompson, W. H. Jones, E. C. Briggs. Musical numbers—Opening chorus, entire company; "After While," W. H. Jones; "Meet Me To night," E. L. Burford," "Molly Lee," J. S. Ridge; "Cubanola Glide," L. P. Robitoy; "Where Lilies Grow," W. J. Wright; "Good Night Beloved," J. S. Foote; "Comical Eyes," E. L. Emery; "Daisies Won't Tell," C. E. Angel; "Down Among Sugar Cane," W. H. Robinson; "A Thousand Leagues 'Neath the Sea," E. C. Briggs; "By the Light of the Silvery Moon," T. S. Booz; "This Ain't No Place for a Minister's Son," E. R. Thompson.

CRISTOBAL.

The local bowling tournament closed this week with the following standing:

	Won.	*Lost.*	*Per Cent.*
Commissary-Subsistence	19	8	.704
Dry Dock	13	14	.482
Quartermaster	11	16	.407
Miscellaneous	11	16	.407

Highest individual score, Mr. C. M. Bullard.

The chess tournament is advancing rapidly. As the men approach the finals more time is taken and greater care shown in playing the games. The standing at present is as follows:

	Played.	*Won.*	*Lost.*	*Per Cent.*
Schaff	10	10	0	1000
Shutes	12	10	2	.833
Alper	12	9	3	.750
Davidson	11	8	3	.727
Henriquez	7	4	3	.571
Pack	10	5	5	.500
Ware	8	3	5	.375
Barnes	9	3	6	.333
Rictnier	9	3	6	.333
Einsohn	7	1	6	.143
Pike	7	1	6	.143
Cleall	9	1	8	.111
Wempe	6	½	5½	.083

(Five of Mr. Wempe's games were forfeited.)

The chess club expects to go to Porto Bello on June 25.

Twenty-three new books have been added to the library.

Keen interest is shown in the regular gymnasium work. The classes meet twice each week. All members are urged to join.

Last Friday night a stereopticon lecture was given by Mr. C. C. Carr. Subject: "Panamanian History in Picture and Story."

Saturday night, the Cristobal Minstrels gave a banquet to close their play "1915 or Bust," which has been given five times.

The operetta "Pauline" which was to have been given Friday night, will be given Tuesday evening June 21.

GATUN.

The "Sociable Smoker," held at the clubhouse on the 15th was well attended. A program, including talent from Empire and Cristobal, as well as Gatun, was given. Several original features were presented.

Three dates for the Gatun members to keep in mind are: June 18, special train for opera in Panama; June 30, Gorgona minstrel performance at Gatun; July 8, States' entertainment.

The regular monthly meeting of the Y. M. C. A. council was held last Saturday night, with Lieut-Col. Sibert presiding.

The class studying "Social Significance of the Teachings of Jesus," closed the course last Tuesday night. The class in "Men of Steel" will hold three more meetings. The remaining character studies are as follows: June 21, "David," with a debate, "Resolved, that David's pen was of greater service to humanity than his sword." June 28, "Elijah," with a debate, "Resolved that Elijah was a greater man than Elisha." July 5, "Job," with a debate, "Resolved that Job's standard of patience is not practicable in this age."

Kenny won the Class B pool tournament by defeating Smith. Hughes leads in Class A. The winner of Class A will play Kenny for the gold medal.

Messrs. Luckey and Ruckert's score of 1,084 leads the Ragtime bowling tournament.

The Gatun bowlers took three straight games from the Cristobal bowlers on the home alleys last Saturday night.

An order for new library books has been placed in the States.

The series of lectures that are being given by Mr. C. C. Carr will continue for four weeks longer. The last lecture will be given in the gymnasium, illustrated with stereopticon slides.

Mr. Barte will have charge of the bowling alleys during the absence of Mr. DeMoll.

Rainfall, June 1 to 11, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	.78	3	2.12
Balboa	.94	3	2.28
Miraflores	1.12	3	3.51
Pedro Miguel	1.50	3	3.97
Rio Grande	.99	3	3.26
Central Section—			
Culebra	1.10	3	3.00
Camacho	.73	3	2.51
Empire	.86	10	3.74
Gamboa	1.95	3	4.35
Alhajuela	1.70	4	5.98
El Vigia	2 79	4	5.93
San Pablo	2.00	3	3.24
Tabernilla	1.73	3	3.71
Bohio	1.11	2	2.65
Gorgona	3.50	4	5.09
Monte Lirio	3.64	2	7.13
Atlantic Section—			
Gatun	3.63	2	5.82
Brazos Brook	2.87	2	5.66
Cristobal	3.30	2	7.03
Porto Bello (to 5 p. m., June 9)	1.31	5	3.45

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, June 11, 1910.

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Lake.)
Height of low water above sea-level, ft.	125	92	46	0	0
Maximum height ab. mean sea-level, feet:					
Sunday, June 5	128.8	95.2	49.3	18.5	18.0
Monday, June 6	128.2	94.5	48.1	18.0	17.7
Tuesday, June 7	127.8	94.5	48.1	17.5	17.4
Wed'esday, June 8	129.6	95.3	49.3	17.1	16.9
Thursday, June 9	127.9	95.1	49.1	17.1	16.7
Friday, June 10	128.4	94.4	49.0	16.9	16.6
Saturday, June 11	128.3	94.6	48.7	17.0	16.6

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending June 22, 1910, (75th meridian time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	A. M.	P. M.	P. M.
June 16	....	4.47	11.03	5.28	11.44
			P. M.		
June 17	....	5.47	12.02	6.24	....
June 18	12.46	6.43	12.54	7.16	....
June 19	1.40	7.32	1.40	8.00	....
June 20	2.22	8.17	2.22	8.42	....
June 21	3.00	8.58	2.30	9.21	....
June 22	3.35	9.37	3.37	10.00	....

OFFICIAL CIRCULARS.

Method of Checking and Accounting Cement Deliveries.

CULEBRA, C. Z., June 10, 1910.

CIRCULAR NO. 335:

The following method of checking and accounting for deliveries of cement shall apply on the Isthmus until further notice, and shall be made effective by the Panama Railroad Company and by the different departments and divisions of the Isthmian Canal Commission as soon as practicable. These rules contemplate that the check now being made at the cement factory by a representative of the Commission and a representative of the contractor be maintained without change.

1. No check will hereafter be made by the Quartermaster's Department of the Commission.

2. The check now being made by the Panama Railroad Company at Cristobal will be discontinued, but the Panama Railroad Company shall have the right to make, in its discretion, an occasional check count at such time as it considers desirable.

3. The determining check shall be accepted as the basis of accomplishment by the Quartermaster's Department, and consequently the shortage charge against the railroad company shall be made by the divisions receiving the cement, and at the point where the cement passes from the custody of the railroad company to that of the Commission. Under this arrangement the Atlantic Division check will be made as the barrels are delivered to the barges at Cristobal, and the Pacific Division check will be made as the cars are unloaded at Pedro Miguel or Miraflores.

4. The Atlantic and Pacific Divisions shall have the count carefully and accurately made, reporting such count to the Depot Quartermaster and to the Panama Railroad Company immediately upon completion of each cargo.

5. In the accomplishment of bills of lading 66⅔ per cent of the barrels and bags which have been made up from sweepings shall be included, the balance to be considered as leakage from intact packages, and that this distribution shall continue until such time as from further observation it shall be found that this percentage is inequitable, when adjustment shall be made.

6. The Panama Railroad Company shall be charged for the shortage of all packages and for set cement, and shall screen, resack and deliver to the Isthmian Canal Commission all loose cement which is found in the holds of the vessels after the cargo of the original packages has been unloaded, 66⅔ per cent of which shall be accepted as a part of the bill of lading, the balance being considered as leakage from intact packages.

7. In case, through an error in division check count, more cement is apparent than called for by the bill of lading, no credit shall be given the Panama Railroad for this overage unless it can be clearly shown that it is entitled to same; in other words, ordinarily the overage should not be considered in the accounting.

H. F. HODGES,
Acting Chairman, Isthmian Canal Commission,
Second Vice-President, Panama Railroad Company.

Law Protecting Canal Zone Ornamental Improvements to be Enforced.

CULEBRA, C. Z., June 3, 1910.

CIRCULAR NO. 334:

The Chief Quartermaster reports that the flowers, shrubs and trees, planted by his department for the ornamentation of Commission grounds, are often wilfully destroyed, particularly by children. In this connection attention is invited to the following extract from the Laws of the Canal Zone:

> SECTION 440. Every person, not the owner thereof, who wilfully injures, disfigures or destroys any monument, work of art, or useful or ornamental improvement within the limits of any municipality, or any shade tree or ornamental plant growing therein, whether situated upon private grounds or on any street, or public park or place, is guilty of a misdemeanor.

The Division of Police and Prisons has been instructed to enforce the foregoing section of the Laws of the Canal Zone stringently and without distinction.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Charge for Electric Light and Current.

CULEBRA, C. Z., June 10, 1910.

CIRCULAR NO. 336:

Effective June 1, 1910, and until further notice, the charge for electric light and electric current furnished by the Mechanical Division to all departments is reduced to 50 cents per lamp and four cents per kilowatt hour by meter for power.

The rate of four cents per kilowatt hour likewise applies to current delivered to the Panama Railroad by meter on the cold storage switchboard.

These rates do not apply to nor change the existing charges for current furnished for private consumption.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Porto Bello Crusher Output.

A statement of the work done at the Porto Bello crusher, by days, for the week ending June 11, 1910, follows:

DATE.	Hours worked.	Cubic Yards.
June 6	7:45	2,183
June 7	12:48	3,049
June 8	13:20	3,542
June 9	14:15	3,596
June 10	13:45	3,487
June 11	14:20	3,660
Total	76:13	19,517

Notice of Granting of Liquor Licenses.

In accordance with a resolution of the Isthmian Canal Commission at a meeting held at Culebra on June 9, the following applicants will be granted licenses for the retail sale of intoxicating liquors in the Canal Zone for the year commencing July 1, 1910:

Rio Grande:
- Wing Wo Yuen.
- Lee Hop.
- Kwong Hing Yan.
- Julio Victorero.
- P. Canavaggio.
- Low Chong.

Culebra:
- Wong You Kee.
- Pedro Colomar.
- Ho Chong & Leon Chow.
- Coyne & McFarlane.
- Hip Woo.
- Nemisio Victorero.

Empire:
- Jose Sandi.
- Juan A. Martinez.
- Yuen Hing Chong.
- Chee Hing.
- Lai Hing.
- Manuel Leones.
- Mezele Gustave.
- Alfred Charles Bowley.
- James Ferguson.
- Wai Loy.

Las Cascadas:
- Justiniano Richefort.
- Lai Wo.
- Sam Lee.
- Charles Bryant.

Bas Obispo:
- Joaquin Terrago.
- See Lee.
- Chee Chung Hing.
- Tuck Ching.
- Curtis A. Brothers.

Matachin:
- Jose C. M. de la Puerta.
- Agapito Centeno.
- Kwong Sang.

Gorgona:
- Esteban Duran.
- Jacob Kowalsky.
- Tracy Smail.
- George Andrade.
- Lin Tai Chong.

Tabernilla:
- Henry Charles Wong.
- Lam Hing Lung.
- M. Alfonso Fon.
- Tomas Santi.
- Chow Bing.
- Chong Tai.

Bohio:
- Wing Lee.
- Hing Lee.
- Yee Shun.

Gatun:
- Lam Hing & Co.
- Yee Chong.
- Yee Kee.
- Pedro Arranz.
- Primitivo Velasco.
- Prudencio San Martin.
- Yee San Lun.
- John Rich'd Drummond

TOM M. COOKE, *Collector of Revenues.*

Ordinance

Providing for the keeping of registers by hotel, boarding and lodging house keepers and the recording of certain information therein.

Under authority of the Order of the President of March 13, 1907, the following ordinance was enacted, to be in force in the Canal Zone on and after the date of its approval by the Secretary of War:

> "Every proprietor or manager of any hotel, boarding or lodging house in the Canal Zone shall keep a register of all guests; which register shall clearly show the name, nationality, and date of arrival of each guest, the place from whence he came and the date of his departure and destination. Any proprietor or manager failing to keep such register, or any guest failing or refusing to give true information for entry in such register shall be guilty of a misdemeanor."

Enacted by the Isthmian Canal Commission at the 156th Meeting, April 23, 1910.

Approved by the Secretary of War, May 12, 1910.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Culebra, C. Z., on Sunday, June 19, 1910, at 5.45 p. m. The program follows:

1 March—*The Midshipman*	Laurendeau
2 Selection—*The Dollar Princess*	Fall
3 Intermezzo from Les Contes des Hoffman	Offenbach
4 Overture—*Hungarian*	Keler Bela
5 Ragtime—*Wild Cherries*	Snyder
6 Caprice—*Dance of the Nymphs*	Buglione
7 Potpourri—*Popular Songs*	La Farge
8 Characteristique—*Moonlight in Dixie*	Clement
9 March—*Standard Bearer*	Fahrbach

CHAS. E. JENNINGS, *Musical Director.*

A concert will be given at Gatun, C. Z., on Sunday, June 26, at 2 p. m.

BASEBALL.

The schedule of games in the Atlantic League ended with June 12. On that day rain prevented the game between Panama Railroad and Colon.

Arrangements have been perfected for a post season series of four games between picked teams from the Isthmian and Atlantic Leagues. Two games are scheduled for June 19—morning and afternoon—at Empire. The same arrangement will prevail at Cristobal a week later on the 26th.

Isthmian League Batting Averages.

Following are the batting averages of the Isthmian Baseball League players who participated in five or more games:

	G.	AB.	R.	H.	AV.	SB.	SH.
Bath, Gorgona	5	19	9	10	.526	6	1
Silke, Marines	7	17	1	7	.412	0	0
Wright, Gorgona	23	79	19	30	.380	7	7
Christopher, Empire	17	65	11	24	.369	7	2
O'Brien, Marines	8	30	6	11	.367	2	0
Barney, Gorgona	25	101	27	36	.356	14	5
Magee, Gorgona	19	73	21	26	.356	9	3
Emery, Gorgona	24	91	16	32	.352	10	3
C Herring, Gorgona	15	64	14	22	.344	9	1
Bell, Empire	21	70	19	24	.343	9	2
S. Fluharty, Empire	15	55	13	18	.327	16	3
Drennan, Ancon	15	40	5	13	.325	2	2
Cole, Gorgona	11	44	8	14	.319	6	2
Clements, Gorgona	21	76	23	23	.303	14	2
E. Fluharty, Empire	24	86	13	25	.291	11	6
Snyder, Marines	18	69	8	19	.275	8	0
Smith, Ancon	24	88	14	24	.273	9	1
Lubomski, Marines	18	70	7	19	.271	7	1
Frampton, Ancon	13	48	6	13	.271	5	1
Snyder, Ancon	18	64	10	17	.266	9	1
Burke, Marines	11	35	1	9	.257	2	1
Dixon, Empire	22	86	17	22	.256	10	5
Murphy, Empire	24	67	13	17	.254	9	4
Poltrino, Ancon	8	20	1	5	.250	3	0
Tinsley, Ancon	22	81	12	20	.247	9	4
Hunter, Ancon	24	87	14	21	.242	6	4
Heltemes, Gorgona	6	17	2	4	.235	0	2
J. Ridge, Gorgona	9	30	6	7	.233	6	4
Nygren, Ancon	22	72	6	16	.222	4	6
Toone, Empire	18	50	6	11	.220	8	3
Yingling, Ancon	8	32	5	7	.219	3	0
Todd, Marines	9	23	5	5	.217	0	0
Pearman, Ancon	23	79	12	17	.215	6	2
Munsen, Marines	23	65	3	14	.215	0	1
Keller, Ancon	22	84	9	18	.214	8	0
Scarff, Marines	22	80	12	17	.213	5	8
Bryan, Empire	16	66	10	14	.212	6	3
Volman, Marines	17	59	7	12	.203	4	0
Dougherty, Gorgona	16	59	12	12	.203	2	0
Moore, Empire	19	65	8	13	.200	7	7
Culbertson, Gorgona	6	20	7	4	.200	7	0
Shephard, Marines	5	15	1	3	.200	0	0
Massen, Gorgona	10	26	3	5	.192	1	1
Burns, Marines	6	16	1	3	.188	1	1
Wrightson, Ancon	8	22	3	4	.182	1	4
Maguire, Marines	18	69	8	19	.179	8	0
G. Herring, Empire	6	17	2	3	.177	3	0
Hurrle, Marines	10	38	1	6	.158	1	3
Markley, Empire	18	52	13	8	.156	10	4
McCabe, Marines	9	34	3	5	.147	0	1
A. Ridge, Gorgona	14	48	7	7	.146	2	0
Case, Gorgona	18	63	8	9	.143	2	5
Marshall, Empire	16	42	5	5	.119	3	4
Kinney, Gorgona	6	19	1	2	.105	2	1
Heinz, Marines	10	30	2	1	.033	1	1
Conway, Marines	10	30	1	1	.033	1	0
Thompson, Empire	5	14	2	0	.000	1	3

Averages of Isthmian League Pitchers.

Following are the averages of the pitchers of the Isthmian League:

NAME AND CLUB.	W.	L.	TIE	SO.	BB.	PC.
Bailey, Gorgona	3	0	0	9	4	1000
Barney, Gorgona	2	0	0	10	6	1000
Lewis, Empire	1	0	0	15	2	1000
Russell, Ancon	1	0	0	7	1	1000
Poke, Empire	1	0	0	4	1	1000
Nuss, Marines	1	0	0	4	0	1000
Marshall, Empire	9	3	0	64	36	.750
Christopher, Empire	6	2	1	63	10	.750
Case, Gorgona	11	4	0	109	27	.733
Tinsley, Ancon	2	1	1	33	10	.667
Willis, Empire	2	1	0	12	8	.667
Lawler, Ancon	2	2	0	21	12	.500
Drennan, Ancon	1	1	0	9	5	.500
Yelton, Marines	1	1	0	7	9	.500
Massen, Gorgona	2	3	0	21	10	.400
Munsen, Marines	3	12	0	74	32	.200
Nygren, Ancon	1	4	0	30	13	.200
Wrightson, Ancon	1	6	0	33	15	.143
Shephard, Marines	0	1	0	6	3	.000
Francis, Ancon	0	1	0	1	1	.000
Synnott, Marines	0	2	0	2	5	.000
Heinz, Marines	0	2	0	4	2	.000
Burns, Marines	0	4	0	9	11	.000

FOUND—On the deck of the Panama railroad steamship *Panama* on its last voyage from New York, one small watch with wrist strap Owner can recover the article by making application at the office of the General Superintendent, Panama Railroad Company, Colon, and identifying property.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning June 11.

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (5 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (5 to 8 pounds)	per lb	24
Chops	per lb	26
Cutlets	per lb	26
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	2
Soup	per lb	5
Stew	per lb	9
Corned	per lb., 12, 14,	16
Chuck roast	per lb	13
Pot roast	per lb	15
Rib-roast, second cut (not under 3½ pounds)	per lb	18
Rib-roast, first cut (not under 3 pounds)	per lb	20
Sirloin roast	per lb	21
Rump roast	per lb	21
Porterhouse roast	per lb	21
Steak, Chuck	per lb	14
Round	per lb	15
Rib	per lb	20
Sirloin	per lb	21
Porterhouse	per lb	21
Rump	per lb	21
Tenderloin	per lb	24

MISCELLANEOUS.

Livers—Beef	per lb	10
Calf	each	60
Half	each	30
Sausage—Pork	per lb	17
Bologna	per lb	14
Frankfurter	per lb	14
Leberwurst	per lb	14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	25
Eggs, fresh	dozen	28
Shads	each	75
Shad Roes	pair	40

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, large	each	1.50
medium	each	1.30
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese	each	2.50
Pheasants	each 70,	1.00
Partridges	each	50
Grouse	each	85

CURED AND PICKLED MEATS.

Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Sugar cured	per lb	21
Sugar-cured, sliced	per lb	25
Half, for boiling	per lb	22
Boiled	per lb	28
Hocks	per lb	‡8
Bacon—Breakfast, whole piece	per lb	28
Breakfast, sliced	per lb	29
Beef, salt, family	per lb	12
Pork, salt, family	per lb	18
Ox tongues	each	80
Pigs' feet	per lb	10
tongues	per lb	16
Mutton, mess	per lb	7

DAIRY PRODUCTS.

Butter—Creamery special	per lb	40
Cheese—Roquefort	per lb	38
Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	26
Edam	each	1.00
Neufchatel	each	6
Gouda	per lb	34
Milk, Briarcliff	bottle	**25

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	8
Lettuce	per hd	8, 12, 16
Cucumbers	per lb	5
Potatoes, white, old	per lb	†3½
white, new	per lb	†3½
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	5
Tomatoes	per lb	8
Turnips	per lb	3
Carrots	per lb	†4
Beets	per lb	3
Parsnips	per lb	3
Cabbage, new	per lb	4
Rhubarb	per lb	7
Spinach	per lb	*4
Peas, green	per lb	*7
Lemons	dozen	24
Oranges, California	dozen	†36
Strawberries	quart	15
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4
Pineapples	each	18

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Supplies for Canal Work.

The following steamers, with supplies for the Isthmian Canal Commission, arrived at the ports of Cristobal and Colon during the week ending June 11, 1910:

Panama, June 6, from New York, with 10 cases electrical material, 12 cases rubber dredge sleeves and 104 pieces structural iron for Atlantic Division; 3 cases dredge parts for Pacific Division; 3 cases chucks and latches for Mechanical Division; 3 cases miscellaneous material for Sanitary Department; 705 bags bran, 1,451 pieces W. I. pipe, 11 cases iron locks, 219 cases iron bolts and nuts, 530 bars iron, 483 pieces white pine lumber, 175 pieces maple lumber, 5 cases incandescent lamps, 6 cases electrical machinery, 16 bundles rail tongs, 11 cases rat traps, 7 cases chucks, 1,800 cases lubricating oil, 9 cases electrical repair parts, 15 cases paper, 28 coils plain wire, 42 cases printing paper, 6 barrels molasses and 21 barrels sea coal facing for stock; and a miscellaneous cargo.

Eastlands, June 6, from Jacksonville, with 197,729 feet yellow pine lumber and 85,980 feet yellow pine piling for stock.

H. T. Inge, June 7, from New Orleans, with 435 switch ties and 1,328 cross-ties for stock; 1,718 tons dump car parts for Cristobal shops (for erection).

Siberia, June 7, from New York, with 6 reels wire for Atlantic Division; 350 kegs white lead in oil, 6 cases iron pipe-fittings and 6 cases valves for stock.

Calonion, June 8, from Liverpool, with 7,250 gallons crude carbolic acid for stock.

Abangarez, June 9, from New Orleans, with 2,410 tons dump car parts for Cristobal shops (for erection); 18 pieces castings and 6 pieces jack boxes for Central Division; 126 bundles sheet steel for Mechanical Division; 6 cases drill sharpener parts, 6 cases concrete mixer machinery and 525 pieces yellow pine lumber for Pacific Division; 1,549 bales hay, 95 pieces piling, 497 hewn pine ties and 21 barrels rosin for stock.

Almirante, June 10, from New York, with 1,500 tons steel beams, channels and bars, 700 kegs wire nails, 6 kegs horse shoes, 6 kegs bronco shoes, 30 kegs mule shoes, 5 cases rubber hose, 366 bars iron and 5 reels insulated wire cable for stock.

Tug *Tormenter*, June 11, from Baltimore, with 1 pipe-line dredge (in tow) for Atlantic Division.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., June 15, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Boone, Mrs. Dell
Chaffee, F. H.
Cushman, C. T.
Doyle, Percy
Evans, George H.
Everist, A. C.
Fay, Joe F.
Gordon, A. E.
Jones, Shirley
Keen, H. B.
Letts, C. G.
Love, William
Marshall, Leon
Martin, K. K.
Molnnigh, Mrs. A.
Neas, John H.
Niblack, A. H.
Payne, James T.
Porter, Harry
Reed, L. M.
Rouland, Walter
Rubier, Herbert Cole
Shaffer, L. E.
Smith, Guy
Soule, E. C.
Stratton, William J.
Sullivan, Eugene K.
Terry, Charles
Wolfe, Butch
Wright, R. T.

The following vessels arrived at and departed from the port of Balboa during the week ending June 11:

Arrivals—June 6, *San José*, from San Francisco; June 8, *Ucayali*, from south ports; June 4, *Hornelen*, from Puget sound; June 9, *Guatemala*, from south ports.

Departures—June 5, *Loa*, for south ports; June 7, *Peru*, for San Francisco and *Arica*, for Guayaquil; June 8, *Quito*, for intermediate ports.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Ancon	P. R. R.	Friday	June 10
Colon	P. R. R.	Monday	June 13
Advance	P. R. R.	Saturday	June 18
Panama	P. R. R.	Friday	June 24
Allianca	P. R. R.	Thursday	June 30
Colon	P. R. R.	Thursday	July 7
Advance	P. R. R.	Tuesday	July 12
Panama	P. R. R.	Monday	July 18
Allianca	P. R. R.	Saturday	July 23
Colon	P. R. R.	Friday	July 29

CRISTOBAL TO NEW YORK.

Allianca	P. R. R.	Saturday	June 18
Colon	P. R. R.	Saturday	June 25
Advance	P. R. R.	Thursday	June 30
Panama	P. R. R.	Wednesday	July 6
Allianca	P. R. R.	Tuesday	July 12
Colon	P. R. R.	Tuesday	July 19
Advance	P. R. R.	Saturday	July 23
Panama	P. R. R.	Saturday	July 30
Allianca	P. R. R.	Thursday	Aug. 4
Colon	P. R. R.	Wednesday	Aug. 10

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

NEW YORK TO COLON.

Santa Marta	U. F. C.	Thursday	June 9
Orizaba	R.-M.	Saturday	June 11
Metapan	U. F. C.	Thursday	June 16
Prinz Joachim	H.-A	Saturday	June 18
Zacapa	U. F. C.	Thursday	June 23
Magdalena	R.-M.	Saturday	June 25
Almirante	U. F. C.	Thursday	June 30
Prinz Aug. Wilhelm	H.-A	Saturday	July 2
Santa Marta	U. F. C.	Thursday	July 7
Clyde	R.-M.	Saturday	July 9
Metapan	U. F. C.	Thursday	July 14
Prinz Joachim	H.-A	Saturday	July 16
Zacapa	U. F. C.	Thursday	July 21
Prinz Aug. Wilhelm	H.-A	Saturday	July 30
Prinz Joachim	H.-A	Saturday	Aug. 13
Prinz Aug. Wilhelm	H.-A	Saturday	Aug. 27
Prinz Joachim	H.-A	Saturday	Sept. 10
Prinz Aug. Wilhelm	H.-A	Saturday	Sept. 24

COLON TO NEW YORK.

Almirante	U. F. C.	Friday	June 17
Prinz Aug. Wilhelm	H.-A	Tuesday	June 21
Santa Marta	U. F. C.	Friday	June 24
Clyde	R.-M.	Wednesday	June 29
Metapan	U. F. C.	Friday	July 1
Prinz Joachim	H.-A	Tuesday	July 5
Zacapa	U. F. C.	Friday	July 8
Prinz Aug. Wilhelm	H.-A	Tuesday	July 19
Almirante	U. F. C.	Friday	July 15
Prinz Joachim	H.-A	Tuesday	Aug. 2
Santa Marta	U. F. C.	Friday	July 22
Prinz Aug. Wilhelm	H.-A	Tuesday	Aug. 16
Prinz Joachim	H.-A	Tuesday	Aug. 30
Prinz Aug. Wilhelm	H.-A	Tuesday	Sept. 13
Prinz Joachim	H.-A	Tuesday	Sept. 27

NEW ORLEANS TO COLON.

Atenas	U.F.C.	Saturday	June 11
Turrialba	U.F.C.	Saturday	June 18
Abangarez	U.F.C.	Saturday	June 25
Atenas	U.F.C.	Saturday	July 2
Turrialba	U.F.C.	Saturday	July 9
Abangarez	U.F.C.	Saturday	July 16

COLON TO NEW ORLEANS.

Abangarez	U.F.C.	Thursday	June 16
Atenas	U.F.C.	Thursday	June 23
Turrialba	U.F.C.	Thursday	June 30
Abangarez	U.F.C.	Thursday	July 7
Atenas	U.F.C.	Thursday	July 14
Turrialba	U.F.C.	Thursday	July 21

COLON TO BARBADOS, CALLING AT TRINIDAD.

Orotava	R.-M.	Tuesday	June 21
Magdalena	R.-M.	Tuesday	July 5

The next sailing of the Leyland Line will be as follows: *Louisianian* June 20, for Tampa, via Kingston, Ja.

Hamburg-American steamers leave for New York at 10 a. m., and for Port Limon every Tuesday or Wednesday.

Royal Mail steamers leave for New York early in the morning and passengers should be on board the night before.

United Fruit Company ships for New Orleans leave at 3 p. m., and for New York at 10 a. m.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

CANAL RECORD

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The Canal Record

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Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Acting Chairman's Monthly Report.

The report of the Acting Chairman of the Isthmian Canal Commission for the month of May is published in full in other columns of this issue of THE CANAL RECORD. It gives a detailed account of the progress of Canal work in all departments and divisions.

Canal Appropriations for 1910-11.

A cable from Washington, dated June 14, 1910, conveys the information that the Canal appropriations, as first introduced in the Sundry Civil Appropriation Bill, passed in Congress without amendment. The Canal appropriations for the fiscal year 1910–11, as carried in the Bill, amount to $37,859,890. The Canal appropriations for the fiscal year 1909–10 aggregated $33,638,000.

Second Concrete Barge Launched.

The second of the three concrete barges for use in connection with the hydraulic operations in the Pacific Division was launched Saturday, June 18. This barge involves a slight modification from the first one in that it is of lighter construction and therefore draws about four inches less water. The building of the third and last barge has been commenced, and the work of mounting the dredging pump, motor and other machinery on the first barge was begun on Saturday. The machinery equipment for each barge weighs approximately 60,000 pounds.

Award for Oils and Grease.

The contract for supplying the Canal Commission with lubricating oil and grease for the fiscal year 1910-11 has been awarded to the Texas Oil Company of New York City and Houston, Texas. The contracts in the past have called for the delivery of all lubricating oil in cans, but under the arrangement for next year one-half of the quantities ordered will be shipped in drums of 54 gallons capacity each and the other half in cans of 5 gallons capacity each. The shipping in drums is an economical measure, and while the figures shown below indicate that the price in drums is a half-cent higher a gallon than in cans, there is in reality a reduction of seven and four-tenths cents per gallon on account of the contractor allowing a rebate of $4 for each drum f.o.b. Colon.

The quantities, classes and prices of the oils covered in the new contract follows:

Quantity. Gallons.	CLASS.	Price per gallon in cans.	Price per gallon in drums.
75,000	Locomotive engine oil........	$.18½	$.19
80,000	Valve oil......................	.27	.27½
80,000	Car oil........................	.17½	.18
20,000	Stationary engine oil.........	.20½	.21
25,000	Marine engine oil	.35	.35½
12,000	Air compressor cylinder oil..	22	.22½
1,000	Gas engine oil................	.30½	.31

The quantities, classes and prices of grease contracted for follows:

Quantity. Pounds.	CLASS.	Price per lb.
60,000	Black grease..................	$.02½
80,000	Yellow grease.................	.06½

The quantities mentioned remain about the same as for the present fiscal year.

New Storm Sewer for Panama.

The installation of an intercepting sewer in the city of Panama to take care of the storm water draining from the slopes of Ancon Hill, within the radius of several city blocks of the Administration Building; also, that part of the city of Panama at present served by an open ditch, has been authorized. During the period of unusually heavy rains, a large volume of water flows through this ditch, frequently flooding Central Avenue, near the intersection of Lyons and West Sixteenth Streets, to a considerable depth.

The point of beginning will be on Magoon Street, at its intersection with the Zone boundary road, just east of the new Panamanian National Institute. It will extend along Magoon Street to Ancon Boulevard, and from there will follow the newly opened street in that section of the city to Central Avenue. Crossing the latter thoroughfare, it will follow Lyons Street to the extension of Avenue B, near the Panama railroad freight house. From this point it will pass along the north end of the freight house, and thence on the east side of the building for a distance of about 400 feet, when it will make a 45-degree bend toward Northern Avenue, which it will cross and continue to its outfall at the beach, a distance of 163 feet further on.

The total length of the sewer will be approximately 2,500 feet. It will be 3 feet 6 inches by 3 feet in size for the first 1,110 feet from the point of beginning on Magoon Street; 4 by 3 feet for the next 472 feet, and 5 by 4 feet for the remaining 900 feet. The sewer will have a one per cent grade for the first 545 feet; 2.2 per cent grade for the next 955 feet, and six-tenths of one per cent grade for the remainder of the distance, or about 1,000 feet. It will be constructed of concrete, laid on steel forms, with a flat roof composed of reinforced concrete slabs. The total cost is estimated at $24,447, divided among the following items:

1,200 cubic yards of concrete..............	$16,200
5,000 cubic yards excavation and sheeting.	5,000
Steel reinforcement........................	725
Replacing pavement.........................	300
10 per cent administration expense.......	2,222
Total..	$24,447

The expense will be paid out of the fund of $800,000 appropriated for sanitary improvements in the cities of Panama and Colon, and the work will be done by the municipal engineering forces of the Pacific Division.

Alfalfa Growing at Ancon.

Experiments in the growing of alfalfa are being made in the Ancon Hospital grounds. A small plot on the slope of the hill near the dairy farm was prepared and seeded a short time ago, and while most of the alfalfa came up, its growth was greatly retarded by weeds. Another planting has been made with better success on a patch of ground back of Ward 15, formerly cultivated as a garden. Here, the conditions were less favorable for the weeds, and more so for the alfalfa, so that a fairly good first crop was procured.

Record Run of Spoil Trains to Gatun.

On June 15, eight trains of twenty-five 17-yard cars each, eight trains of thirty-five 10-yard cars each, and two trains of thirty-two 10-yard cars each, representing a total of 6,200 cubic yards, were operated from Culebra Cut to Gatun, breaking all daily records for this run. In addition, one train of thirty-two 10-yard cars, and one train of thirty-four 10-yard cars were started out of the Cut, but were tied up at Juan Grande and Matachin.

Hospital for Ancon Dairy Cows.

The construction of a hospital shed at the Ancon Hospital dairy farm for the treatment of sick cows has been authorized. It will be a frame structure, 50 feet long by 24 feet wide, divided into eight box stalls. The stalls will have concrete floors, and a 5½-foot concrete walk, with a 12-inch drain extending through the center will surround the place. The shed will be located on the opposite side of the Ancon cemetery road from the cow stables.

Concrete Work at Gatun.

A total of 18,832 cubic yards of concrete was laid in the locks at Gatun during the week ending June 18, an average of nearly 3,139 cubic yards for each of the 12-hour working days. The output would have been somewhat larger had not the entire plant been shut down for four and one-half hours in the

NOTES OF PROGRESS.

(Continued.)

afternoon of Tuesday, June 14, account of no water, due to lightning striking the pumping station at the Agua Clara reservoir. The record in detail is as follows:

	Cubic Yards.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
June 13........	2,138	824	103	3,065
June 14........	1,640	496	100	2,236
June 15........	2,328	1,032	191	3,551.
June 16........	2,296	854	251	3,401
June 17........	2,400	820	104	3,324
June 18........	2,200	864	191	3,255
Total	13,002	4,890	940	18,832
Previously reported ...	....	....	....	458,323½
Grand total	....	....	....	477,155½

A total of 218 cubic yards of concrete was laid in the spillway of Gatun Dam during the week.

Pacific Division Lock Section.

There was an increased amount of concrete laid in the Pedro Miguel Locks during the week ending June 18, an additional mixer of the construction plant having been placed in service on Monday, making three of the berm crane mixers in operation through the week. The total output, including 220 cubic yards laid on Sunday, June 12, by the 2-yard auxiliary mixer, was 7,438 cubic yards. The record in detail follows:

	Cubic Yards.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
June 12.......	....	220	....	220
June 13.......	752	362	....	1,114
June 14.......	934	262	20	1,216
June 15.......	1,014	192	55	1,261
June 16.......	1,018	240	20	1,278
June 17.......	764	424	....	1,188
June 18.	812	308	41	1,161
Total........	5,294	2,008	136	7,438
Previously reported ..	....	....	....	149,677
Grand total..	....	....	....	157,115

In addition, a total of 287 cubic yards of concrete was laid in the Miraflores Locks, making a grand total at that point of 683 cubic yards.

Sewer Work in Colon.

Work on the new D Street sewer in Colon is advancing steadily. The sewer will be 6,800 feet long, and a section about 1,250 feet in length, extending south from the beach road, has been completed. The old open ditch, which formerly served as a sewer, has nearly filled up, and the excavation for the new sewer begins practically at the street level. The digging is in the softest kind of mud, varied occasionally, by a patch of coral rock.

A locomotive crane, operating an orange peel bucket, has until recently been employed on this work, but it is temporarily out of commission, and the removal of the mud is now proceeding wholly by hand. To prevent the sides of the trench from sliding in, a parallel row of planking is sunk. When working at the bottom of the trench, the shovelers throw the excavated material on a platform, and from here it is relayed by another set of shovelers to one side of the street. Water continually seaps in and to keep the trench free of it three pumps are kept going day and night. Two of these pumps have a capacity of 450 gallons per minute each, while the third will pump 700 gallons per minute. Steam for their operation is furnished from the boiler of a Belgian locomotive located close by.

Concrete for the sewer forms is produced on the spot by a ¾-cubic yard cube mixer mounted on a flat car, which is moved ahead as the work advances. An inclined Decauville track runs from the ground to the hopper over the mixer and the sand and stone is carried up in Decauville cars. A portable blacksmith shop, where the reinforcing material is prepared, constitutes part of the equipment.

Work of Porto Bello Rock Crusher.

A statement of the work done at the Porto Bello crusher, by days, for the week ending June 18, 1910, follows:

Date.	Hours worked.	Cubic Yards.
June 13..........................	13:20	3,297
June 14..........................	1:35	380
June 15..........................	2:10	804
June 16..........................	13:43	3,952
June 17..........................	14:45	3,013
June 18..........................	12:55	3,506
Total..........................	58:28	14,952

The No. 1 line shaft in the crusher house at Porto Bello broke on the morning of the 14th, and the crusher did not resume full operations again until the morning of the 16th.

Ancon Quarry Operations.

A statement of the rock crushed at Ancon quarry for the week ending June 18 follows:

Date.	Hours worked.	Cubic Yards.
June 13..........................	4:55	1,404
June 14..........................	3:40	1,032
June 15..........................	5:25	1,248
June 16..........................	4·20	1,248
June 17..........................	5:25	768
June 18..........................	2:20	696
Total..........................	26:25	6,396

Fourth of July Fund.

The Chairman of the Finance Committee for the Fourth of July celebrations at Ancon and Cristobal reports that the subscriptions are coming in very slowly and that a considerable amount is yet required to complete the fund. The committee earnestly requests that those having subscription lists in charge, expedite the canvass and forward the amounts collected with the least possible delay.

Zone Liquor Licenses.

Fifty-six applications for liquor licenses have been granted for the fiscal year beginning July 1, 1910, which is one less than were granted for the first six months of the present fiscal year. The license for the sale of intoxicating liquors in the Canal Zone is $1,200 a year, payable semiannually in advance. In the second half of the present fiscal year five persons holding licenses dropped out, leaving 52 licenses in force. The total amount derived from liquor licenses during the year was $65,400. The total number of applications received for the next fiscal year was 59, of which three were rejected, one on account of the previous record of the applicant, and two on account of being outside of the saloon area. There are only 10 places in the Zone where intoxicating liquors are permitted to be sold, viz., Rio Grande, Culebra, Empire, Las Cascadas, Bas Obispo, Matachin, Gorgona, Tabernilla, Bohio, and Gatun. Ancon, Balboa, Corozal, Miraflores, Pedro Miguel, Paraiso and Cristobal are numbered among the "dry" towns. Liquor licenses were formerly granted at Balboa and Pedro Miguel, but at Balboa so much trouble was experienced with the crews of vessels on account of the proximity of the saloons to the docks that the practice was discontinued. There is no change in the number of licenses granted for the next fiscal year at Rio Grande, Las Cascadas, Bas Obispo and Bohio. There is an increase of one at Matachin; one at Tabernilla, and two at New Gatun. There is a decrease of two each at Culebra, Empire and Gorgona.

The Collector of Revenues has recently had printed in pamphlet form the regulations governing the sale of intoxicating liquors in the Canal Zone, in force as of May 1, 1910.

New School Tuition Rate.

The resolution adopted at the 157th meeting of the Isthmian Canal Commission held at Culebra, June 9, increasing the rate of tuition to children of nonresidents in the Canal Zone graded schools and high school, is quoted in full below:

Resolved, That effective October 1, 1910, children of nonresidents of the Canal Zone may attend the public schools of the Canal Zone, when, in the opinion of the Superintendent of Schools, it is practicable to admit them, on payment in advance of the following tuition, to be accounted for to the Treasurer of the Canal Zone:

Graded schools......$4 per month.
High school........ $8 per month.

Provided, however, that no tuition shall be charged in case of children whose parents or guardians are employes of the Isthmian Canal Commission or the Panama Railroad Company.

The Magdalena Floated.

The Royal Mail steamship *Magdalena*, which went aground on a bar near Cartagena, was pulled off by the Atlantic Division tug *Reliance*, Thursday, June 16, and arrived at Colon Saturday evening, the tug returning one day earlier. The passengers were disembarked and cared for on an island in the bay. The *Magdalena* cancelled the New York part of its schedule and left on Monday for Kingston; returning will leave for Barbados on July 5.

May Postal and Revenue Business.

A statement of the money order business transacted in the month of May by the Canal Zone postal system is given below:

Number of orders issued...........	16 853
Amount issued......................	$439,011.39
Issued payable in United States....	329,893.32
Issued payable in the Canal Zone..	108,743.07
Issued payable in Martinique	375.00
Fees collected......................	1,907.31
Postal sales, less 40 per cent of face value..............................	3,050.40
Newspaper postage (second class)..	2.32
Money orders paid and repaid by postmasters..........................	125,898.82
Money orders invalidated, paid by Treasurer's warrant...............	484.50
Average value of orders issued	26.04

The post-office transacting the largest amount of business was Cristobal, with 3,181 orders, aggregating $88,647.

The revenue collections for the month were as follows:

Distillation licenses..................	$359.19
Taxes, licenses, etc..................	10,939.39

TELEPHONE IMPROVEMENTS.

Consolidation of Culebra and Paraiso Exchanges with Empire—New Cables.

The telephone exchanges at Culebra and Paraiso are to be consolidated with the Empire exchange as soon as the work of installing the new equipment at Empire is completed. In anticipation of this change, the central office at Paraiso was abolished on June 16, and the stations there have been temporarily connected into the Culebra exchange. One of the chief reasons for the consolidation is to increase the efficiency of the service by centering the operations at a point where they can be given closer supervision. It will also result in a saving in operating expenses, and will eliminate the maintenance expense in connection with these two exchanges.

The plans for the new exchange at Empire provide for the installation of a modern lamp signal, common battery switchboard, consisting of two sections, wired for a total of 400 telephones, each section to be attended by two operators. A new distributing frame, relay rack and other accessories will also be installed. A new 100-pair aerial cable is to be strung from Empire to Culebra, which will take care of the business there, while the Las Cascadas subscribers will be served by a 30-pair aerial cable to be strung on the existing pole route following the present line of the Panama railroad. The cables to Culebra and Las Cascadas will end in cable boxes to which the stations at Bas Obispo and Paraiso will be connected by open wires, these wires joining the cables at the terminal heads.

The switchboards now in use at Empire and Culebra will be thoroughly overhauled and divided between the exchanges at Ancon, Gorgona and Colon to furnish additional facilities at those places. The switchboard at Paraiso is small and will be removed and stored.

A number of other improvements in the telephone system are contemplated, some of which have been entered upon. A 120-pair underground cable will be laid from the Cristobal exchange to the freight office of the Panama Railroad Company in Colon, where 20 pairs will terminate. Here, the underground cable will connect with a 100-pair aerial cable, which will extend to the railroad company's office building. A 30-pair aerial cable will be strung from this point along the beach road as far as the residence of the General Superintendent, and a 20-pair cable from there to Colon Hospital. Distributing boxes will be placed one to every block along the beach road to reach all the telephones in this section.

A 20-pair underground cable is to be laid to connect the Cristobal exchange with the commissary, a distance of about two blocks. A 60-pair aerial cable will be strung from the Cristobal exchange to building No. 2 on Cristobal Point, with a 20-pair cable branching off to the cold storage plant and Dock 11.

The work of stringing a 30-pair aerial cable from the Ancon exchange to Balboa has been commenced. It follows the Ancon cemetery road and will extend to a point in Balboa about opposite the office of the Resident Engineer. Another 30-pair aerial cable will be strung from the Ancon exchange to the old Administration Building in Panama, which will serve all of the Panama subscribers to the railroad telephone system.

Plans have been perfected and the material ordered for providing telegraph and telephone facilities along the relocated line of the Panama railroad. A 25-pair underground cable composed of No. 18 copper-wires will ultimately be laid the entire distance between Colon and Panama, taking care of both telegraph and telephone business. The cable will be encased in a special steel armor to protect it from injury and undue deterioration. The present plans provide for the completion of a section of this cable, from Cristobal to Gamboa, a distance of 32 miles by the end of the next dry season, in order that it may be ready for service when it becomes necessary to use the relocated line regularly for railroad traffic.

PERSONAL.

Col. Geo. W. Goethals sailed for the Isthmus on the steamer *Advance*, which left New York on Saturday, June 18.

Mr. C. A. McIlvaine, accompanied by Mrs. McIlvaine, returned on the *Ancon* on Saturday, June 18, from a vacation in the States.

Dr. Claud C. Pierce, accompanied by his family, sailed for New York on June 3, on his annual leave of absence.

Vacation School at Cristobal-Colon.

An effort is being made to establish a vacation school for the children of Cristobal and Colon. It is proposed, providing sufficient support is given the plan, to maintain a school of this kind under the direction of a competent instructor during the months of July, August and September. There will be no regular studies, but special attention will be paid to physical exercises, sloyd work, raffia, weaving and musical drills. There will be daily sessions of three hours, and a charge of $3 for the term will be made.

Colon Humane Society Meeting.

The regular monthly meeting of the Colon Humane Society was held in the council room of the Government building in Colon on Sunday, June 12. Announcement was made by the Governor of Colon that the office of Humane Officer had been abolished by order of the Supreme Court, but that he had recommended the appointment of a municipal inspector who, in connection with his other duties, would take over those of the Humane Officer. The amount of $100 United States currency was raised by the society for the Cartago earthquake sufferers. The next meeting of the society will be held the first Sunday in July.

Homicide at Tabernilla.

A man, subsequently identified as an Italian named Murro Guisseppe, was found dead in a gutter on the ground outside of labor camp No. 214 at Tabernilla, at daylight, Wednesday morning, June 15, with a stab wound in the left breast. An investigation made by the police showed that Guisseppe was last seen about 11 o'clock the night before, when he left a saloon in Tabernilla in company with another Italian. The police later arrested three men named Francisco Facio, José Angel, and Pablo Guterrez for the deed, and information charging manslaughter was filed against them. All three were arraigned in the District Court at Empire on Tuesday, June 21, and were subsequently remanded for trial in the Circuit Court on Tuesday, July 5. The evidence secured by the police showed that the three prisoners had their quarters in the building outside of which the body of Guisseppe was found, and that they had been intoxicated the night previous. Guisseppe arrived in Tabernilla about a month ago.

Circulating Library at Balboa.

A circulating library has been opened in Balboa for the accommodation of people residing in that village and in Ancon. Initial membership fees are $1.50 and exchange fees 50 cents a month, or $5 a year. Service between Balboa and Ancon is provided, a messenger calling for and delivering books to subscribers' quarters on Saturday of each week. The library contains 225 volumes comprising some of the late fiction.

Sailing of the Ancon.

The sailing date of the steamship *Ancon* from Pier No. 11, Cristobal, has been fixed for 3 p. m., Monday, June 27.

Lightning struck the pumping plant at the Agua Clara reservoir at Gatun, Tuesday afternoon, June 14, burning out the transformers and entailing a temporary stoppage of operations.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Gatun, C. Z., on Sunday, June 26, 1910, at 2 p. m. The program follows:

1	March—*The Midshipman*	Laurendeau
2	Selection—*The Dollar Princess*	Fall
3	Waltz—*Alicia*	Bennett
4	Medley Selection—*Amina*	La Farge
5	*Wild Cherries*	Snyder
6	Overture—*Lustspiel*	Keler Bela
7	Bolero—*Isolina*	Labory
8	*a* Ragtime Glide	Mills
	b *Faddy Whack*	Lampe
9	Ballet and Soldiers Chorus from Wm. Tell	Rossini
10	March—*Army and Marine*	Zehle

Oliver Kimball, *Director.*

A concert will be given at Hotel Tivoli, Ancon, on Sunday, July 10 at 7.30 p. m.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, June 18, 1910.

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Lake.)
Height of low water above sea-level, ft..	125	92	46	0	0
Maximum height ab. mean sea-level, feet:					
Sunday, June 12....	133.6	98.2	52.9	17.8	16.8
Monday, June 13...	130.6	96.0	52.0	18.2	17.2
Tuesday, June 14...	128.0	94.6	48.3	17.5	17.1
Wed'esday, June 15	127.5	94.2	47.9	17.2	17.0
Thursday, June 16..	132.6	97.4	51.7	17.7	17.0
Friday, June 17....	129.3	96.2	51.7	18.2	17.3
Saturday, June 18..	130.6	96.8	49.8	18.1	17.2

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending June 29, 1910, (75th meridian time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	P. M.	P. M.	P. M.
June 23.....	4.09	10.16	4.14	10.38	....
June 24......	4.45	10.55	4.52	11.17	....
June 25.	5.22	11.35	5.30	11.57	....
		P. M.			
June 26.....	6.02	12.17	6.12	....	....
		A. M.	A. M.		
June 27......	....	12.39	6.45	1.02	6.57
June 28.....	....	1.23	7.30	1.52	7.44
June 29		2.12	8.20	2.44	8.37

CANAL WORK IN MAY.

Monthly Report of the Acting Chairman to the Secretary of War.

CULEBRA, C. Z., June 15, 1910.

The Honorable the Secretary of War,
Washington, D. C.

Sir: I have the honor to submit the following report of operations on the Isthmus for the month of May, 1910:

Department of Construction and Engineering.

The following table summarizes the principal items of construction work accomplished by the Atlantic, Central and Pacific Divisions during the month:

Item.	Unit.	Atlantic.	Central.	Pacific.	Total.
Work excavation, dry	Cubic yards	82,958	1,348,253	51,619	1,482,830
Work excavation, wet	Cubic yards	447,578	....	484,509	932,087
Total work excavation	Cubic yards	530,536	1,348,253	536,128	2,414,917
Plant excavation, dry	Cubic yards	19,403	4,061	1,360	24,824
Plant excavation, wet	Cubic yards	37,877	....	....	37,877
Total plant excavation	Cubic yards	57,280	4,061	1,360	62,701
Total Canal excavation	Cubic yards	587,816	1,352,314	537,488	2,477,618
Material placed in dams	Cubic yards	453,558	....	30,052	483,610
Concrete placed	Cubic yards	77,440	....	29,603	107,043
Explosives used	Tons (Gross)	58.67	120.50	22.45	201.62
Rock drilling	Feet	72,075	359,285	52,349	483,709
Track removed	Miles	....	9.93	....	9.93
New track laid	Miles	3.67	16.74	1.93	22.34
Rock crushed	Cubic yards	68,949	1,012	30,312	100,273
Cement used	Barrels	77,263	64	31,472	108,799
New roads built	Miles	....	.22	.08	.30
Water mains laid	Feet	709	860	2,594	4,163
Sewers laid	Feet	1,560	509	3,196	5,265
New drains and ditches dug	Feet	....	2,562	3,755	6,317
Average daily force	....	8,344	8,907	4,389	21,640
Rainfall, average	Inches	13.88	10.56	11.02	11.23

Atlantic Division.

GATUN LOCKS.

Excavation—Shovel excavation during the month was carried on in the middle and lower chambers. The shovel excavation for the middle locks was completed, and the excavation for the entire locks proper, exclusive of the excavation for the approach walls, was 91 per cent completed. The trench excavation in the middle lock was 25 per cent completed in the east chamber.

Receiving and Issuing Material—The receipts of material during the month were satisfactory, with the exception of lumber.

Mixing and Placing Plants—These plants were kept in satisfactory operation during the month.

Concrete Work—The concrete work for May showed an increase over April of approximately 11,000 cubic yards placed. The place measurement exceeded the bucket measurement by 110½ cubic yards. The amount of large stone placed was small, due to lack of material. The concrete in the upper lock was 47 per cent completed, and for the entire work the concreting, exclusive of the approach walls, was approximately 20 per cent completed.

Power Plant—The power plant was operated satisfactorily during the month.

Iron and Steel Work—Castings were placed as follows:

	Tons.
For guard gates	14.6
Upper guard gates	43 5
Intermediate gate sills, comp	100.4
Emergency dam anchorage	14.9
Caisson sills	10.0
Total	183.4
Reinforcement	99.9

GATUN DAM.

Construction during the month increased the total fill by 453,558 cubic yards, making the total amount in place 7,828,630 cubic yards.

Hydraulic Fill—The dredges increased the hydraulic fill by 249,283 cubic yards, which made the total hydraulic fill in place at the close of the month 3,269,056 cubic yards.

Enrockments—The material received from the Central Division, the locks and the spillway, amounting to 204,275 cubic yards, was placed on the north and south toes of the dam, making the total dry fill in place 4,549,574 cubic yards.

GATUN SPILLWAY.

The narrow gage track from the mixing plant to the east approach wall at the head of the spillway was completed, and the construction of this wall was continued.

Concrete—The amount of concrete laid was 3,167 cubic yards, making the total at the close of the month 81,506 cubic yards.

Excavation—The material excavated amounted to 19,403 cubic yards, of which 1,788 cubic yards were for the approach to the West Diversion coaling trestle, and the remainder for track approaches to the spillway bridge.

Spillway Bridge—The girders for the last two spans of the spillway bridge were placed in position, field riveting was continued, and excavation made for connecting tracks.

Cut-off Levee—Work was continued constructing the levee from Spillway Hill to Mindi Hill, and during the month 27,900 cubic yards of material were placed, making the total at the end of the month 105,173 cubic yards.

HARBOR AND CHANNEL SECTION.

Dredging from the Ocean to Mindi—Three dredges removed from the Canal prism 395,698 cubic yards of earth and 51,880 cubic yards of rock. In addition, the dredge *Mindi* removed 37,377 cubic yards of earth and 500 cubic yards of coral from Shelter Cove. On May 31st, 40 feet of water could be carried from zero to mile 2 plus 00 feet; 30 feet to mile 4 plus 1,800 feet; 20 feet to mile 5 plus 1,750 feet, the end of the cut.

PORTO BELLO.

At this point two 8-hour shifts were continued during the month. The maximum day's output was 3,490 cubic yards of crushed rock, and the total for the month 68,949 cubic yards. The average hourly output for 379 hours and 25 minutes was 182 cubic yards.

Sand, Stone and Cement Service—In connection with this service, plant steamed 8,886 miles, handled 697 barges, and carried about 2,624 passengers.

COLON BREAKWATER.

At Shelter Cove 37,877 cubic yards of material were dredged. The water supply survey was completed, and cross-section work started at the quarry. Three range lights were set back of Shelter Cove, and one permanent and one temporary light at the entrance to the cove.

NOMBRE DE DIOS.

During the month 40 barge loads, containing 22,484 cubic yards of sand, were shipped to Gatun.

MUNICIPAL ENGINEERING.

The usual work of maintenance of roads, water works and sewers, pumping stations, etc., was satisfactorily performed. The work of fencing the boundary line of Agua Clara reservoir was completed during the month. The slopes of the reservoir basin were cleared of vegetation as the water rose, the elevation of the water at the end of the month being 49.0. The pumps at the new station were started May 28.

TORO POINT.

The construction of a water supply system for Toro Point was commenced May 23, and about one mile of cart road was built for the transportation of pipe. The work was delayed somewhat on account of heavy rains.

Central Division.

During the month of May the total amount of material excavated in the Central Division was 1,352,314 cubic yards, of which 391,691 cubic yards were classified as earth, and 960,623 cubic yards as rock. Of this quantity, 1,331,758 cubic yards were removed by steam shovels, 4,365 by hand, and 16,191 cubic yards by contract; 1,348,253 cubic yards were primary excavation for the Canal prism, and 4,061 cubic yards were excavation for inclines for tracks not useful to the completed Canal.

The daily average number of steam shovels at work during the month was 44.80, and the total number of shovel days was 1,120, as compared with 50.04 shovels at work during the month of April, with 1,301 shovel days.

For comparison with the work done by steam shovels during the corresponding month of the previous year, the following table has been prepared:

Period.	Excavated by shovels.	Classification of material.		Av. No. of shovels at work.	W'kg days.	Av. yards per shovel day.
		Rock.	Earth.			
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*			*C. Y.*
1909: May	1,499,946	1,004,314	495,632	50.60	25	1,182.9
1910: May	1,331,758	954,325	377,433	44.80	25	1,189.1

Raiufall at Empire: 1909, 7.72 ins.; 1910, 11.08 ins.

The above table shows the average output per shovel day to be nearly six-tenths of 1 per cent greater in May, 1910, than in the corresponding month of the previous year.

The total amount of material excavated from the prism in the Culebra Section of the Central Division in May, 1910, was 1,099,279 cubic yards, being the highest record in that section for the month of May, the highest previous record for that month having been in May, 1909, when 1,082,217 cubic yards were removed.

The total amount of material to be excavated in order to complete the Canal in the Central Division when the United States assumed control was 89,794,493 cubic yards. Up to June 1, 1910, 57,346,013 cubic yards had been removed, leaving 32,448,480 cubic yards to be removed in order to complete all excavation in the Central Division. From these figures it will be seen that 63.86 per cent of all excavation in the Central Division had been completed up to the close of the month of May, and 36.14 per cent remained unfinished.

Considering the two sections which compose the Central Division, the excavation completed and that to be completed at the close of May operations were as follows:

CULEBRA SECTION.

	Cubic Yards.
Completed	48,012,729
To be completed	30,029,566

CHAGRES SECTION.

Completed	9,333,284
To be completed	2,418,914

From the above figures it will be seen that the Culebra Section, locally known as the "Culebra Cut," was 61.52 per cent completed, with 38.48 per cent to be completed; the Chagres Section was 79.42 per cent completed, with 20.58 per cent to be completed.

During the month the following quantities of material were hauled from the Canal prism and dumped in the embankment for the new roadbed for the relocation of the Panama railroad: 91,491 cubic yards between Caimito and Gamboa; 12,410 cubic yards in the vicinity of Miraflores. The total at the close of the month used for this purpose was 3,577,277 cubic yards. During the month, 6,270 cubic yards of earth and 115,592 cubic yards of rock from the Culebra Cut were transported to Gatun for use in the construction of the dam, making the total at the close of the month for this purpose 410,374 cubic yards of earth, and 989,078 cubic yards of rock; 1,137 cubic yards of rock and earth were transported to Bohio, Bridge 55½, and Colon for the Panama Railroad Company.

The output of the Empire portable rock crusher for the month was 467 cubic yards, and that of the Gorgona portable rock crusher, 545 cubic yards. The rock crusher at Bas Obispo was not operated during the month, gravel secured from bars which formed during the floods of the Chagres River at Santa Cruz and Matachin being used for track ballast, instead of crushed rock. There were 9,780 cubic yards of gravel secured from flood deposits at Matachin, of which 1,230 cubic yards were stored for future concrete work, making the amount stored for this purpose 33,373 cubic yards.

The daily average number of laborers at work on the whole division during the month was 8,004, the average number of gold men being 903.

Pacific Division.

DISTRICT NO. 1—LOCKS AND DAMS.

The total excavation during the month amounted to 52,979 cubic yards. At Pedro Miguel, 23,572 cubic yards of dry filling were added to the prism of the west dam, making the total at the close of the month 259,502 cubic yards. At Miraflores, 6,480 cubic yards of dry filling were added to the toe; no hydraulic filling was added to the core of the west dam, leaving the totals at the close of the month, 513,545 cubic yards and 138,587 cubic yards, respectively. During the month 13,450 cubic yards of dry filling were placed in backfill, increasing the total to 110,870 cubic yards.

Handling Plant—Chamber cranes Nos. 3 and 4 were completed, No. 3 being placed in operation during the latter part of the month handling concrete from the temporary plant. The entire plant will be put in operation as soon as the trestle in the east chamber for handling concrete can be carried over the forebay.

DISTRICT NO. 2—DREDGING.

The following table gives the output of the five dredges which were in operation during the month:

Dredge.	Type.	Work.		Plant.		Total.	Remarks.
		Earth.	Rock.	Earth.	Rock.		
		Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	
Badger	Ladder	76,420				76,420	Place measurement
Marmot	Ladder	89,785				89,785	Place measurement
Mole	Ladder	7,325	4,700			12,025	Place measurement
Cardenas	Dipper	45,560	728			46,288	Place measurement
Culebra	Suction	259,991				259 991	Scow measurement
Total		479,081	5,428			484,509	

Chamé Sand Excavation—The ladder dredge *Gopher* was employed from May 1 to May 29 on sand excavation at Chamé, and removed approximately 35,100 cubic yards of sand.

Hydraulic Excavation Plant—At the Agua Dulce pumping station for the hydraulic excavation plant the work of installing pumps was continued and practically completed with the exception of the piping. The erection of the machinery, oil tanks, smokestack and boiler was commenced.

DISTRICT NO. 3—MUNICIPAL WORK.

The maintenance and operation of the various municipal plants was continued satisfactorily.

Cocoli Pumping and Filtration Plant—The Venturi meter at Cocoli registered 11,825,000 gallons, or a daily average of 382,323 gallons of water supplied to the 16-inch main from Cocoli Lake.

Rio Grande Reservoir—The Venturi meter at the Rio Grande reservoir registered an output of 108,699,000 gallons of water during the month, or a daily average of 3,506,420 gallons. The elevation of the water in the reservoir on May 31, 1910, was 229.14.

Panama Improvements—During the month the work on the new improvements in the city of Panama progressed satisfactorily.

Tomba Muerta Road—Work was commenced on a road known as the "Tomba Muerta Trail," beginning at a point along the Sabanas road, about one mile west of the police station. This will be a 12-foot dirt road, the work of construction being performed by Zone prisoners.

Naos Island Reservoir—Work was satisfactorily continued on the 100,000 gallon reinforced concrete reservoir at Naos Island.

DISTRICT NO. 4—ANCON QUARRY.

At Ancon quarry 30,312 cubic yards of crushed stone were produced. The plant was operated at less than its capacity, the larger motors for operating the No. 6 crushers not arriving in time to be installed before the end of the month.

Relocation of Panama Railroad.

During the month 223,248 cubic yards of material were excavated, making the total excavation at the close of the month 3,644,888 cubic yards, and 340,530 cubic yards of material were placed in embankment, making the total at the close of the month 8,492,901 cubic yards.

During the month 309 linear feet of trestle were driven, and the work of constructing bridges and culverts was continued. During the month 3,917 linear feet of 70-pound track were taken up, and 6,626 linear feet of 90-pound track were laid, increasing the total to 172,634 linear feet.

The total force averaged 2,525 men during the month.

Quartermaster's Department.

Labor—The force report for May shows a slight decrease, from the preceding month, and a considerable decrease from the force at work in March. The force on the relocation of the Panama railroad was reduced 20 per cent. The movement of independent Spaniards continued, and there was an adequate supply of labor throughout the month.

Quarters—There remain but 37 applications on the No. 1 list of applicants for family quarters. By the assignment of the last type-14 houses completed at Gatun, and with the vacancies in sight, it will soon be practicable to provide all the applicants on the No. 1 list with quarters. The Commission has fulfilled its promises at all points in the granting of family quarters to employes who entered the service prior to January 1, 1908. The No. 2 list remains about stationary. Two type-18 houses at Empire were converted into nonhousekeeping quarters during the month, and assignments were made to applicants from Gorgona, Gatun and Cristobal.

Building Construction—Satisfactory progress was made in construction work at Toro Point. The laborers' mess hall was completed, and the hotel, one type-18 house and the laborers' barrack were well advanced. Laborers' barracks at San Pablo, Juan Grande and Culebra were demolished and the material shipped to Nombre de Dios for the construction of dwellings authorized at that point.

Material and Supplies—The estimated cost of material purchased from July 1, 1909, to May 31, 1910, is $12,445,149.90, chargeable to appropriations as follows:

Construction and Engineering	$12,327,234.03
Zone Sanitation	104 487.63
Civil Administration	13,428.24

In addition to the foregoing, there has been ordered on annual contracts material estimated to cost $2,006,424.41.

Subsistence Department.

The operation of the European laborers' messes, the colored laborers' kitchens and the line hotels showed a net profit of $4,695.56; the operation of the Hotel Tivoli showed a net profit of $1,146.61, and there was a net profit on restaurants and penitentiary of $293.16. The net profit on subsistence operations was $6,135.33.

Department of Civil Administration.

COURTS.

Three civil cases were disposed of in the Supreme Court of the Canal Zone, 12 civil and 41 criminal cases in the Circuit Courts, and 114 civil and 604 criminal cases in the District Courts of the Zone.

DIVISION OF POSTS, CUSTOMS AND REVENUES.

Money order sales for May amounted to $439,011.39, and the fees to $1,907.31. Receipts from stamp and card sales and newspaper postage aggregated $6,586.32. The total collections of the Division were $19,792.21, and the collections on account of court fines, costs and fees, $3,429.72. The net revenues of the Zone were $20,588.33.

During the month 22 vessels entered at and 22 vessels cleared from the port of Ancon, and 25 vessels entered at and 23 vessels cleared from the port of Cristobal.

DIVISION OF POLICE AND PRISONS.

The number of arrests during the month was 657, an increase of 43 as compared with March. Sixteen convicts were committed to the penitentiary and 10 were discharged, and on May 31st 127 convicts were confined in the penitentiary. The cost of guarding and subsisting the convicts was $4,902.90, and the value of the work performed by them was $1,807.25. The services of the convicts were utilized in the construction of the Empire-Paraiso road, the improvement of streets, and filling a swamp at West Culebra.

DIVISION OF FIRE PROTECTION.

During the month 10 fires were reported in the Canal Zone, and one false alarm was responded to. The estimated value of property involved in the Canal Zone was $79,500, and the damage was $40 to Government property, and $15 to private property.

DIVISION OF PUBLIC WORKS.

In the city of Panama the average daily consumption of water during the month was 1,070,909 gallons, and in Colon, 830,065 gallons.

The usual inspection and maintenance work of this division was performed during the month.

DIVISION OF SCHOOLS.

The total enrollment in the white schools was 774, and the average daily attendance 664.9, or 86 per cent of the enrollment; and in the colored schools the total enrollment was 984, and the average daily attendance 462, or 45 per cent of the enrollment.

Department of Sanitation.

The annual death rate per thousand from all causes among white employes for the month of May, since American occupation, has been as follows:

May, 1907	18.34
May, 1908	14.59
May, 1909	14.11
May, 1910	9.94

For the same period the annual death rate per thousand from all causes among black employes has been as follows:

May, 1907	34.48
May, 1908	8.72
May, 1909	7.87
May, 1910	6.98

For the same period the annual death rate per thousand for the Canal Zone, and the cities of Panama and Colon, has been as follows:

May, 1907	31.57
May, 1908	20.87
May, 1909	15 77
May, 1910	18.69

The number of employes in May, 1907, was 39,003, with 98 deaths; in May, 1908, 44,816, with 39 deaths; in May, 1909, 46,974, with 37 deaths; and in May, 1910, 52,863, with 34 deaths.

Among white employes for the month of May, 1910, the number of deaths from all causes was 11—six from disease and five from external causes—with an average per thousand of 5.42 from disease and 4.52 from external causes.

Among colored employes for the month of May, 1910, the total number of deaths from all causes was 23—fifteen from disease and eight from external causes—giving an annual average per thousand of 4.55 from disease, and 2.43 from external causes.

Among all employes during the month there were six deaths from tuberculosis, two from dysentery, and one each from blackwater fever, malarial fever, typhoid fever, and pneumonia.

The total number of white Americans, including their families, connected with the Commission and the Panama railroad in May, 1910, was 10,285. The total number of deaths occurring among them was six, four being due to disease and two from external causes, giving an annual average per thousand of 7.00.

No cases of smallpox, plague or yellow fever originated on or were brought to the Isthmus during the month.

Respectfully,
H. F. HODGES, *Acting Chairman.*

Cartago Earthquake Relief Fund.

The final financial statement of the Canal Zone chapter, American National Red Cross, in connection with the relief of sufferers from the earthquake at Cartago, is as follows:

Total amount of money received from all sources	$1,288.90
Total expenditures	115.33
Balance	$1,173.57
Previously forwarded to Cartago	500.00
Balance now to go forward to Mr. Gustavus L. Munroe, Secretary of the American Legation at San José	673.57
Total	$1,173.57

C. A. DEVOL,
Chairman, Canal Zone Chapter,
American National Red Cross.

Culebra, C. Z., June 18, 1910.

Sojourners Lodge, A. F. and A. M.

Sojourners Lodge, No. 874, A. F. and A. M., Colon, will attend divine service in Cristobal Chapel, Sunday June 26, 1910, at 11 a. m. Sermon by Rev. A. A. Nellis, Culebra. All Masonic clubs and sojourning Masons are invited to attend. Lodge members will meet at 10.30 a. m. in lodge hall over chapel, Cristobal. By order of R. W. M.

C. G. CARTY, *Secretary,*

Gatun, C. Z., June 20, 1910.

Brotherhood of Trainmen.

All members of the Brotherhood of Trainmen are requested to attend a meeting at Las Cascadas, at 12.30 p. m., Sunday, June 26, for the purpose of electing a Deputy President for the Canal Zone.

PATRICK A. MCLAUGHLIN.

Paraiso, C. Z., June 19, 1910.

Knights of Columbus.

A regular meeting of Panama Council will be held at Ancon hall at 1.30 p. m., Sunday, June 26. All members are requested to be present.

C. P. CONLAN,
Financial Secretary.

OFFICIAL CIRCULARS.

Sick Certificates Must Be Furnished.

CULEBRA, C. Z., June 14, 1910.

HEADS OF DEPARTMENTS AND DIVISIONS:

Attention is called to the fact that employes are being sent to the hospitals and to local physicians for treatment without being furnished with the necessary certificate provided for in Circular No 174.

This circular is again quoted for the information and guidance of all concerned:

CULEBRA, C. Z., May 11, 1908.

CIRCULAR NO. 174:

1. On and after May 15 employes of the Isthmian Canal Commission and Panama Railroad Company will be admitted for treatment in the hospitals of the Canal Zone only upon request made by a physician in the employ of the Sanitary Department, or the official, superintendent or general foreman under whom they are employed. Proper certificates have been printed and an initial supply will be furnished from the office of the Chief Sanitary Officer, and future supplies may be obtained on regular stationery requisition.
2. In sending sick employes to local physicians for treatment, form must always be properly filled in so as to give the physician the necessary information in case he wishes to send the employe to hospital.
3. Physicians will act as heretofore in emergency cases. The necessities of patients will always be given first consideration, and no man who is in urgent need of hospital care will be refused admission on account of this order.

GEO. W. GOETHALS, *Chairman.*

Heads of departments and divisions will issue the necessary instructions to obtain compliance with this circular.

H. F. HODGES, *Acting Chairman.*

Consolidation of Quartermaster's Districts.

CULEBRA, C. Z., June 20, 1910.

TO ALL CONCERNED:

Effective July 1, Bas Obispo and Las Cascadas Districts will be consolidated, with headquarters at Las Cascadas.

C. A. DEVOL,
Chief Quartermaster.

Superintendent of Telegraph and Telephone.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT.
COLON, R. P., June 1, 1910.

CIRCULAR NO. 123:

Heads of All Departments—Effective to-day, Mr. A. B. Kratz, Acting Superintendent of Telegraph and Telephones is hereby appointed Superintendent of Telegraph and Telephones.

J. A. SMITH, *General Superintendent.*

Rainfall, June 1 to 18, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	2.02	15	6.14
Balboa (to 5 p. m. June 18)	3.67	15	7.04
Miraflores	2.20	15	8.15
Pedro Miguel (to 5 p. m. June 18)	1.51	15	8.55
Rio Grande	1.65	18	7.75
Central Section—			
Culebra	1.54	18	6.91
Camacho	1.30	13	6.43
Empire	.99	12	6 59
Gorgona	3.50	4	8.64
Gamboa	1.95	3	8.58
Alhajuela	1.97	16	10.28
El Vigia	2 79	4	9.36
San Pablo	2 00	3	5.15
Tabernilla	1.73	3	6.41
Bohio	1.65	18	7.77
Monte Lirio	3.64	2	12.84
Atlantic Section—			
Gatun	3 63	2	8.58
Brazos Brook	2.87	2	7.79
Cristobal	3.30	2	9.08
Porto Bello (to 5 p. m., June 17)	1.31	5	6.51

Sale of Phonograph at Public Auction.

EMPIRE, C. Z., June 16, 1910.

There will be sold at public auction by the District Quartermaster at Empire, Canal Zone, on the premises at 3 p. m., July 2, 1910, to the highest bidder for cash, the following Isthmian Canal Commission property: One Victor Phonograph, which will be removed from the premises by the successful bidder within five days from date of sale.

The Government reserves the right to reject any or all bids.

For further information apply to the Y. M. C. A., Empire, Canal Zone.

C. A. DEVOL, *Chief Quartermaster.*

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

The chess item in last week's notes was in error and should have stated that Mr. C. M. Wilson played six games simultaneously, winning three and losing three.

Mr. William DuBois has issued a challenge to meet all comers on Tuesday evening, June 28, at simultaneous chess.

EMPIRE.

The literary society held its first meeting on Friday, June 17, with an attendance of thirty. The following officers were elected: President, F. E. Porter; vice-president, J. R. McNeil; secretary and treasurer, A. B. Dickson; executive committee, F. E. Porter, H. B. Pearson and O. H. Harland. The next regular meeting will be held Friday evening, June 24, when the organization will be completed and a short literary program will be given.

The gymnasium class will meet as usual on Monday and Thursday evenings. The classes will be closed for a period of three months commencing July 1, at which time another line of physical work will be taken up.

Through special arrangement, the standing of the big baseball leagues will be found posted daily at the Empire Y. M. C. A.

The membership committee will hold its first meeting the latter part of this week. Men representing all the different interests of the town will be on the committee.

GORGONA.

Mr. J. S. Safford of Camp Elliott will deliver an address on Sunday night, June 26. Special music will be a feature. All are cordially invited.

The third annual performance of the Gorgona Minstrels, Friday, June 17, was a success, and the hall was filled. A special train brought many from Pedro Miguel. As a large number of people were unable to secure tickets the performance is to be repeated on Thursday night, June 23. Seats were placed on sale Monday, June 20.

The local bowling tournament was started last week composed of four five-man teams; as follows: The "Muck Rakers," S. Roper, captain; the "Ground Rats," F. King, captain; the "Skeeters," Halderman, captain; the "Stogies," H. Otis, captain. The "Muck Rakers" won their first two matches.

Work starts this week on a 175-yard cinder running track in the rear of the clubhouse. This will give Gorgona a small athletic field, which will be the means of widening the physical work and stimulating a keen interest in out-of-door sports.

The gymnasium classes have been well attended for the past ten weeks, and only two more weeks remain for this work. Basketball will begin on the first of July. The call for candidates will be issued soon.

GATUN.

The Gorgona Y. M. C. A. bowling team took three straight games from the Gatun team at Gatun last Saturday night.

The Canal Zone High School will present the comic operetta "Pauline, or, An Eventful Day" at the Gatun clubhouse, Friday evening, June 24. Thirty characters, supported by a chorus company of grenadiers and orchestra, compose the company.

The Gorgona Minstrels will appear at the Gatun clubhouse on Thursday evening, June 30.

An evening service will be held at the clubhouse on Sunday, June 26. A prominent speaker will deliver an address and special music will be a feature of the meeting.

CRISTOBAL.

The high school basketball team defeated the Y. M. C. A. intermediates on Monday night, June 13.

The weekly discussion class was led Thursday night, June 16, by Mr. Hardy.

A party of sixty-nine went over to Panama on the opera special from Cristobal, Saturday night, to hear Cavelleria Rusticana and Pagliacci.

The final standing on June 17 of the championship chess tournament follows:

	Played.	*Won.*	*Lost.*	*Per Cent.*
Schaff	12	12	0	1000
Shutes	12	10	2	.833
Alper	12	9	3	.750
Davidson	12	9	3	.750
Henriquez	12	7½	4½	.625
Pack	12	6½	5½	.543
Rittiner	12	5	7	.417
Ware	12	4½	7½	.375
Pike	12	4	8	.333
Cleal	12	3½	8½	.292
Barnes	12	3½	8½	.292
Einsohn	12	3	9	.250
Wempe	12	½	11½	.042

Note—Eleven of Mr. Wempe's games were forfeited by the rules of the tournament, and Mr. Einsohn voluntarily forfeited to Mr. Schaff.

The championship chess tournament finals for the gold medal resulted as follows:

	Played.	*Won.*	*Lost.*	*Per Cent.*
Schaff	3	2½	½	.833
Shutes	3	1½	1½	.500
Davidson	2	1	1	.500
Alper	2	0	2	.000

The second prize (silver medal) resulted as follows:

Cleal	3	2	1	.666
Ware	2	1	1	.500
Pike	2	1	1	.500
Rittiner	3	1	1	.333

Saturday night, the Gatun bowling team met the local team with the following result:

Gatun.	*1st.*	*2d.*	*3d.*
Shelby	139	127	134
Meyers	149	169	150
Hodges	172	126	145
Herrington	143	181	182
Kerr	182	165	145
Totals	785	768	756

Cristobal.	*1st.*	*2d.*	*3d.*
Duer	111	...	...
Grover	165	131	159
Adams	152	182	162
Louch	214	174	191
Collins	163	159	187
Hess	...	97	109
Totals	805	743	808

A pool tournament has been started with twelve entries.

PORTO BELLO.

The barber shop has been running for about two weeks and it is an appreciable addition to the clubhouse. The hours are arranged to accommodate the men working on all the shifts.

The floor of the gymnasium as lined out facilitates indoor baseball, basketball and handball playing. A canvas mat has been made for boxing and some interesting matches are pulled off on the gymnasium floor. A shower bath is also being put in.

A chess tournament has been held by the local chess club. The eight highest will represent the Porto Bello club in a match game to be played with the Cristobal club here, Saturday night, June 25. The percentages of the eight men are as follows: Morgan 1000, Stickle .929, Hanbury .917, Gibbs .769, J. A. Wilson .769, Almorth .607, Pflueger .572, McDonald .500. The club has 15 members and from now on will play in two sections.

A committee has been appointed to arrange for a pool tournament.

GENERAL NOTES.

About 230 people from the line took advantage of the special train arranged for by the Y. M. C. A., Saturday night, to hear the double program given by the Lombardi Opera Company. The train left Cristobal at 6 p. m., leaving Panama on its return directly after the opera was over.

Mr. Carl Steventon, the English Wizard, will sail from New York for the Isthmus on June 24. He will remain on the Zone giving entertainments under the management of the Y. M. C. A., for about two weeks. A schedule of his appearances will be published in the next issue of THE CANAL RECORD.

Baseball Games at Empire Postponed.

The two games between players of the Isthmian and Atlantic Leagues scheduled for Sunday, June 19, at Empire, were postponed on account of rain. Two games are scheduled for Sunday, June 26, at Cristobal, the one in the morning to be called at 10 o'clock, and the afternoon game at 3 o'clock.

An Even Break.

Mr. E. J. Vogel of the Culebra Chess Club played eight games of chess simultaneously on June 14. He won four of his games, but lost the other four. All of the games were finished within two and one-half hours.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., June 22, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Alligood, Joshua
Brown, Mrs. Jacob
Carson, Ulric S.
Chapman, Mrs. Arthur
Christensen, Mr. & Mrs. J. B.
Dowell, E. E.
Driver, J. B.
Friedman, Sigmund
Halligan, Miss Catherine
Herbold, Fred
Hoey, John
Johnson, W. O. (2)
Kimball, George
Kirman, Jno. C.
Lidman, Capt. G. O.
Magunda, Gadalupa
McIntyer, William
McNeal, Mrs. Stelle
Readle, Wm. H.
Reed, Mr. L. M.
Roper, Will K.
Russell, John D.
Severy, Frank J.
Snyder, R. L.
Welsh, Thomas E.
Whyte, Walter
Wilke, J. C.
Williams, Iua (pkg.)
Williams, Miss V.
Wilson, Allen W.
Wright, R. T.

BASEBALL.

PLANS FOR SEASON 1910-11.

The baseball prospects for the season of 1910-11 were canvassed at a meeting of representatives of the Isthmian and Atlantic Leagues held in Colon on June 1. A report was framed and unanimously adopted by a joint committee from the two leagues, which contains, in substance, the following recommendations:

1. That the Atlantic and Isthmian Leagues combine for the conduct of baseball on the Isthmus, and that the new league be composed of six teams, four from the present territory of the Isthmian League and two from the territory of the Atlantic League, this combination to be predicated upon the ability to secure free transportation for the members of the several teams.

2. Should the Commission not see its way clear to grant free transportation to the players, it is suggested that the Commission take over the baseball parks on an equitable basis and conduct them in the same manner as the entertainments given under the auspices of the Y. M. C. A.

3. Should neither of these two plans become operative, it is recommended that the Atlantic and Isthmian Leagues continue their organization under a common constitution and a like schedule, all matters affecting the two leagues to be handled by a baseball commission composed of two members selected and appointed by each league, the four members thus appointed to select a fifth member and a chairman, each league to put up a forfeit with the baseball commission in such an amount as shall be later agreed upon, to insure faithful compliance with the contract and observance of the constitution and by-laws' Under this arrangement the signing of players for next season shall be under the provisions of the National Agreement, which stipulate that each player must report back to the team under which he was playing during the past season, and is not eligible under contract with any other club, unless he has secured a waiver from the president of the association with which he played during the 1909-10 season.

The baseball officials feel that the interests of organized baseball on the Isthmus will be best subserved by the first of the foregoing plans, and negotiations will be conducted to that end by the members of the joint committee from both leagues.

Atlantic League Batting Averages.

The batting averages of players in the Atlantic League who have played in five or more games follows:

NAME AND CLUB.	G.	AB.	R.	H.	SA.	SH	AV.
Lindberg, C.-S	16	58	19	23	15	1	.396
Edwards, C. A	16	61	9	22	14	2	.378
Curtis, C.-S	12	43	19	15	8	1	.341
McGinnis, C-S-P.R.R	18	60	10	20	5	1	.333
Fleichman, C. A	15	51	13	17	1	1	.333
Major, C. A	5	18	3	6	1	0	.333
Coffin, C.-S	7	22	2	7	2	2	.318
Herring, Colon	12	45	13	14	4	0	.311
McCusty, C.-S	16	52	13	16	3	4	.307
Smith, C.-S	14	56	17	17	7	0	303
Ferrar, C. A.	15	47	13	14	8	3	.297
Bryan, P. R. R	13	44	8	12	5	0	.295
Reese, C.-S	7	14	2	4	1	0	.285
Bradley, P.R.R.-Col.	6	14	0	4	0	0	.285
Bath, C. A	8	25	2	7	5	0	.280
Wheeler, P. R. R	7	22	4	6	5	1	.272
Morton, Colon	6	22	3	6	2	1	.272
Weber, Colon	17	52	15	14	7	0	.269
Cushing, P. R. R	5	15	2	4	0	0	.266
Davis, P. R. R	8	19	4	5	2	0	.263
Kenney, Colon	9	31	7	8	9	0	.258
Gilmartin, C. S	5	16	4	3	1	0	.250
Cleary, Colon	9	33	3	8	0	1	.242
Souders, Colon	14	47	5	11	1	1	.234
Payne, C.-S	15	60	11	14	3	1	.233
Dockery, P. R. R.-C.	17	43	11	10	9	0	.232
Daugherty, P. R. R	7	26	6	6	7	0	.230
Morrell, C. A.-C	10	35	7	8	1	1	.228
Russell, C. A	13	35	7	8	0	0	.228
McCormack, C. S	11	44	10	10	6	1	.227
Lewis, P. R. R	15	40	12	9	2	4	.225
Heberling, P. R. R	10	27	4	6	2	1	.222
Simmons, C.-S	11	33	5	7	1	2	.212
Hope, Colon	16	49	8	10	9	1	.204
Muggleton, C.-S	16	60	15	12	5	0	.200
Rex, C. A	9	20	4	4	1	0	.200
Osborne, P. R. R	6	18	3	3	0	1	.166
Hiller, P. R. R	9	25	3	4	0	0	.160
Beard, C. S	13	44	10	7	1	1	.159
Blane, C. A	6	19	3	3	0	0	.157
Fechtig, C. A	6	22	3	3	1	0	.136
Woods, P. R. R	6	16	4	2	3	0	.125
Goree, Colon	7	25	2	3	1	0	.120
Stevens, Colon	19	51	7	6	2	2	.117
Bailey, Colon	8	26	1	3	2	0	.115
Murry, Colon	7	18	2	2	0	0	.111
Jeffries, Colon	5	9	2	1	1	1	.111
McKeever, C. A	8	24	0	2	3	1	.083
Odea, Colon	6	15	2	1	1	0	.066
Roos, C. A	6	16	2	1	1	0	.062

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m ; 2 p. m to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m to 7 p. m.

Retail prices of cold storage provisions for the week beginning June 18.

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (5 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (5 to 8 pounds)	per lb	24
Chops	per lb	26
Cutlets	per lb	26
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	2
Soup	per lb	5
Stew	per lb	9
Corned	per lb., 12, 14,	16
Chuck roast	per lb	13
Pot roast	per lb	15
Rib-roast, second cut (not under 3½ pounds)	per lb	18
Rib-roast, first cut (not under 3 pounds)	per lb	20
Sirloin roast	per lb	21
Rump roast	per lb	21
Porterhouse roast	per lb	21
Steak, Chuck	per lb	14
Round	per lb	15
Rib	per lb	20
Sirloin	per lb	21
Porterhouse	per lb	21
Rump	per lb	21
Tenderloin	per lb	24

MISCELLANEOUS.

Livers—Beef	per lb	10
Calf	each	60
Half	each	30
Sausage—Pork	per lb	17
Bologna	per lb	14
Frankfurter	per lb	14
Leberwurst	per lb	14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	25
Eggs, fresh	dozen	28
Shads	each	75
Shad Roes	pair	40

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, large	each	1.50
medium	each	1.30
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese	each	2.50
Pheasants	each 70,	1.00
Partridges	each	50
Grouse	each	85

CURED AND PICKLED MEATS.

Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Sugar cured	per lb	21
Sugar-cured, sliced	per lb	25
Half, for boiling	per lb	22
Boiled	per lb	28
Hocks	per lb	‡8
Bacon—Breakfast, whole piece	per lb	28
Breakfast, sliced	per lb	29
Beef, salt, family	per lb	12
Pork, salt, family	per lb	18
Ox tongues	each	80
Pigs' feet	per lb	10
tongues	per lb	16
Mutton, mess	per lb	7

DAIRY PRODUCTS.

Butter—Creamery special	per lb	40
Cheese—Roquefort	per lb	38
Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	26
Edam	each	1.00
Neufchatel	each	6
Gouda	per lb	34
Milk, Briarcliff	bottle	**25

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	8
Lettuce	per hd	8, 12, 16
Cucumbers	per lb	5
Potatoes, white, old	per lb	3½
white, new	per lb	3½
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	5
Tomatoes	per lb	8
Turnips	per lb	†4½
Carrots	per lb	4
Beets	per lb	3
Parsnips	per lb	3
Cabbage, new	per lb	4
Rhubarb	per lb	*5
Green Corn	per doz	48
Asparagus	bunch	20
Lemons	dozen	24
Oranges, California	dozen	36
Strawberries	quart	†20
Watermelons	each	35
Canteloupes	each	10
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4
Pineapples	each	18

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Supplies for Canal Work.

The following steamers, with supplies for the Isthmian Canal Commission, arrived at the ports of Cristobal and Colon during the week ending June 18, 1910:

Allianca, June 12, from New York, with 42 cases boots and shoes, 10 pieces capstan and 9 cases rubber hose for Atlantic Division; 2 dipper handles, 61 pieces pipe and 21 pieces fittings for Central Division; 2 crates row boats and 4 cases miscellaneous material for Pacific Division; 248 pieces castings and 600 knuckles for Mechanical Division; 6 vertical boilers for Mechanical Division (for hotels); 5 cases coupon books for Examiner of Accounts; 15 cases drugs and supplies for Sanitary Department; 23 cases air brake repair parts, 10 cases acids, 5 cases drugs, 10 cases cotter springs, 6 cases ticking, 21 barrels glassware, 198 cases iron bolts and nuts, 300 cases lubricating oil, 33 bundles galvanized iron, 333 cases varnish, 200 rolls roofing paper, 117 pieces wrought iron pipe, 5 reels insulated cable, 75 rolls iron wire netting, 80 barrels insulators and 125 cases caustic soda for stock; and a miscellaneous cargo, the whole consisting of 2,746 packages weighing 271 tons;

Prinz August Wilhelm, June 14, from New York, with 9 reels copper wire for stock.

Everest, June 14, from Gulfport, with 1,876 pieces piling and 14,293 yellow pine cross-ties for stock.

Origen, June 15, from New Orleans, with 128 tons dump car parts for Cristobal shops (for erection); 137 pieces castings and 31 bundles castings for Mechanical Division; 28,625 feet yellow pine lumber for stock.

Atenas, June 16, from New Orleans, with 216 tons dump car parts for Cristobal shops (for erection); 5 barrels journal bearings for Mechanical Division; 86 tons timothy hay, 250 pieces cast iron pipe, 65 reels wire rope, 330 sacks cottonseed hulls, 240 sacks cottonseed meal, 11,075 gallons kerosene oil, 255 pieces piling, 407 yellow pine cross-ties and 18 cases handled axes for stock.

Santa Marta, June 17, from New York, with 1,152 cases lubricating grease, 1,720 pails lubricating grease, 250 cases engine oil, 6 drums engine oil, 26 cases rubber hose, 25 bales rubber hose, 21 bales rubber packing, 11 cases electrical material, 51 bundles spring steel and 25 bars spring steel for stock.

Ancon, June 18, from New York, with 33,470 barrels cement for Atlantic Division, and 71,720 bags cement for Pacific Division.

Married.

BECKERLEGGE-DOXEY—At St. Luke's Church, Ancon, on Sunday, June 19, Mary Eudora Doxey to Bernard Beckerlegge, both of Culebra, the Ven. Archdeacon Bryan officiating.

McLEOD-WRIGHT—On May 27, 1910, at the home of Mrs. W. S. Davis, Colon Beach, Adeline Purdy Wright to Arthur Thomas McLeod.

Proposals for Standard Laborers' Barrack No. 2 at Porto Bello.

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, C. Z., until 3 p. m., July 2, 1910, and then opened for the erection by contract of a standard laborers' barrack No 2, at Porto Bello. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $150 when the contract is signed.

C. A. DEVOL,
Chief Quartermaster.

The following vessels arrived at and departed from the port of Balboa during the week ending June 18:

Arrivals—June 11, *Ecuador*, from Guayaquil; June 13, *Oberon* (oil boat) from Port Harford; *Chile*, from south ports, and *Pennsylvania*, from San Francisco; June 16, *Manavi*, from intermediate ports.

Departures—June 11, *Hornelen*, for south ports; June 12, *Ucayali*, for south ports; June 14, *San José*, for San Francisco, and *Guatemala*, for south ports; June 15, *Oberon*, for Port Harford; June 16, *Ecuador*, for Guayaquil.

MOVEMENT OF OCEAN VESSELS

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Advance	P. R. R.	Saturday	June 18
Panama	P. R. R.	Friday	June 24
Allianca	P. R. R.	Thursday	June 30
Colon	P. R. R.	Thursday	July 7
Advance	P. R. R.	Tuesday	July 12
Panama	P. R. R.	Monday	July 18
Allianca	P. R. R.	Saturday	July 23
Colon	P. R. R.	Friday	July 29
Advance	P. R. R.	Thursday	Aug. 4
Panama	P. R. R.	Thursday	Aug. 11
Allianca	P. R. R.	Wednesday	Aug. 17
Colon	P. R. R.	Tuesday	Aug 23

CRISTOBAL TO NEW YORK.

Colon	P. R. R.	Saturday	June 25
Ancon	P. R. R.	Monday	June 27
Advance	P. R. R.	Thursday	June 30
Panama	P. R. R.	Wednesday	July 6
Allianca	P. R. R.	Tuesday	July 12
Colon	P. R. R.	Tuesday	July 19
Advance	P. R. R.	Saturday	July 23
Panama	P. R. R.	Saturday	July 30
Allianca	P. R. R.	Thursday	Aug. 4
Colon	P. R. R.	Wednesday	Aug. 10
Advance	P. R. R.	Tuesday	Aug. 16
Panama	P. R. R.	Tuesday	Aug. 23
Allianca	P. R. R.	Monday	Aug. 29

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

NEW YORK TO COLON.

Metapan	U. F. C.	Thursday	June 16
Prinz Joachim	H.-A	Saturday	June 18
Zacapa	U. F. C.	Thursday	June 23
Magdalena	R.-M	Saturday	June 25
Almirante	U. F. C.	Thursday	June 30
Prinz Aug. Wilhelm	H.-A	Saturday	July 2
Santa Marta	U. F. C.	Thursday	July 7
Clyde	R.-M	Saturday	July 9
Metapan	U. F. C.	Thursday	July 14
Prinz Joachim	H.-A	Saturday	July 16
Zacapa	U. F. C.	Thursday	July 21
Prinz Aug. Wilhelm	H.-A	Saturday	July 30
Prinz Joachim	H.-A	Saturday	Aug. 13
Prinz Aug. Wilhelm	H.-A	Saturday	Aug. 27
Prinz Joachim	H.-A	Saturday	Sept. 10

COLON TO NEW YORK.

Santa Marta	U. F. C.	Friday	June 24
Clyde	R.-M	Wednesday	June 29
Metapan	U. F. C.	Friday	July 1
Prinz Joachim	H.-A	Tuesday	July 5
Zacapa	U. F. C.	Friday	July 8
Almirante	U. F. C.	Friday	July 15
Prinz Aug. Wilhelm	H.-A	Tuesday	July 19
Santa Marta	U. F. C.	Friday	July 22
Prinz Joachim	H.-A	Tuesday	Aug. 2
Prinz Aug. Wilhelm	H.-A	Tuesday	Aug. 16
Prinz Joachim	H.-A	Tuesday	Aug. 30
Prinz Aug. Wilhelm	H.-A	Tuesday	Sept. 13
Prinz Joachim	H.-A	Tuesday	Sept. 27

NEW ORLEANS TO COLON.

Turrialba	U.F.C.	Saturday	June 18
Abangarez	U.F.C.	Saturday	June 25
Atenas	U.F.C.	Saturday	July 2
Turrialba	U.F.C.	Saturday	July 9
Abangarez	U.F.C.	Saturday	July 16
Atenas	U.F.C.	Saturday	July 23

COLON TO NEW ORLEANS.

Atenas	U.F.C.	Thursday	June 23
Turrialba	U.F.C.	Thursday	June 30
Abangarez	U.F.C.	Thursday	July 7
Atenas	U.F.C.	Thursday	July 14
Turrialba	U.F.C.	Thursday	July 21
Abangarez	U.F.C.	Thursday	July 28

COLON TO BARBADOS, CALLING AT TRINIDAD.

Magdalena	R.-M	Tuesday	July 5

The next sailing of the Leyland Line will be as follows: *Barbadian*, July 11, for New Orleans, via Kingston, Ja.

Hamburg-American steamers leave for New York at 10 a. m., and for Port Limon every Tuesday or Wednesday.

Royal Mail steamers leave for New York early in the morning and passengers should be on board the night before.

United Fruit Company ships for New Orleans leave on Thursday at 3 p. m., and for New York on Thursday at 10 a. m.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, JUNE 29, 1910. No. 44

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Hydraulic Excavation Gatun to Mindi.

Excavation of the section of the Canal between Gatun Locks and the cut through the Mindi Hills will be accomplished hydraulically. The suction dredge *Sandpiper* and the 18-inch suction dredge being built at the Cristobal marine shops will probably be assigned to the work. To dispose of the material an 18-inch pipe-line about 4,000 feet long will extend from the site of operations to a trestle, now under construction, to the east of the Panama railroad right-of-way, which it will parallel for a distance of approximately 4,300 feet. The trestle will be 25 feet high, filled in to form a solid embankment, and is designed to hold back the hydraulic spoil. The land over which the material is to be distributed is low and subject to inundation. The fill will reclaim and increase its value, while the water pumped in with the solid material will drain into the Mindi River, a short distance away.

To Elevate Railroad in Low Places.

The north bound track of the Panama railroad is to be elevated at three low places between Tiger Hill and Ahorca Lagarto, where the roadbed is subject to inundation during high water. One of these depressions is at bridge 24, near old Tiger Hill; another occurs where the road crosses bridges Nos. 25, 26 and 27. Considerable improvement work was done at this point during the past dry season and the track was elevated to about 20.5 feet. It has since settled to about 19.5 feet. The third place is at bridge 29, Black Swamp, where it is proposed to elevate the track to 22 feet. The raising of the track in the sections mentioned will permit the use of the present operated line during the greater part, if not all, of the rainy season, thereby obviating the necessity of transferring traffic to the relocation between Frijoles and Gatun, which would not only interrupt construction work on the new line, but would cause some delay in the transportation of sand and rock to Gatun. Hard rock will be used on the track between bridge 22 and Lion Hill, and cinders at Black Swamp. Conditions in the Black Swamp section are much better than formerly. A drain was installed there a few months ago, which carried off a large proportion of the water and reclaimed some of the ground in the vicinity of the bridge, increasing the solidity of the piling.

Survey of the Canal Zone.

The Canal appropriations made by Congress for the fiscal year 1910-11 includes an appropriation of $75,000 for the survey of Canal Zone lands. This work has been assigned to the Third Division of the Chief Engineer's office and will be started as soon as possible after July 1.

The survey is designed to cover what the land area will be after the completion of the Canal. This area will be laid off in sections, measuring approximately two kilometers (1.243 statute miles) on each side. All leases of land in a section will be located by reference to section corners. The initial point of the system will be Balboa Hill, near Gorgona, a standard meridian and a standard base line passing through the triangulation station at that point.

The data obtained from the survey will be incorporated in the following plans and maps: (a) large-scale record plans; (b) medium-scale district plans; (c) a smaller-scale general map of the entire Zone, including as much adjacent territory as seems advisable.

The district plans will cover the whole of the Canal Zone, their boundaries being limited by the drainage basins of the different streams. They will show the general lay of the lands, together with their topography and availability for general development. The principal purpose of these maps will be to show the layout of the roads and trails, the interrelation of villages and plantations, and the character of the country, including its adaptability for special uses, such as agriculture, grazing, and plantation work of various kinds. The map will be of especial value in connection with municipal work and in the matter of policing and sanitation.

Dumping at Balboa.

On June 22, forty-four trains, consisting of 827 Lidgerwood flats of 19 cubic yards capacity each, and 32 dump cars of 10 cubic yards capacity each, were unloaded on the dumps and on the breakwater trestle in Panama Bay, near Balboa. This is the highest record of dumping for a single day for these dumps, there being 16,033 cubic yards of spoil disposed of.

Track shifter No. 9, together with a full equipment of tools and cable, has been leased to the Panama Railroad by the Central Division for use on the relocation.

THE PACIFIC ENTRANCE.

Original Excavation in Section 4½ Miles Long Has Been Completed.

Four and one-half miles of the Canal channel at the Pacific entrance have been completed. This fact was officially determined on Monday, June 20, when the results of a survey, made as of May 1, were ascertained.

The completed section extends from deep sea in Panama Bay to station 2300, about 2,500 feet from the end of the Panama railroad wharf at Balboa. Between these points the channel has been dredged to an average depth of 45 feet, in some parts a little more; in others a little less, allowing for a certain percentage of fill which is being constantly carried into it by currents and tidal movements.

In THE CANAL RECORD of February 17, 1909, the announcement was made that five miles of the Canal at the Pacific entrance had been opened to navigation, and that on February 1, 1909, ocean going vessels had begun the use of it, but only during the daylight hours. At that time the channel was excavated throughout the five-mile section to a depth of 30 feet in its shoalest part; the first mile had been dredged to the maximum width of 500 feet, and the remainder to a width of 400 feet. Since then ocean vessels have been plying the channel regularly and for some months past they have been able to navigate it at night, so at the present time there is not the slightest interruption to navigation from deep sea to the Panama railroad dock.

The survey of May 1 showed that the four and one-half-mile section had been excavated practically to grade and to the maximum width of 500 feet for its entire length. The suction dredge *Culebra* has been at work for the greater part of its time during the past six months in removing the remaining excavation in this section and in cleaning up the bottom of the channel. It is now working about opposite the Resident Engineer's office at Balboa and will excavate to grade and clean up between this point and the completed channel. This section is approximately 3,500 feet long and has an average depth of 35 feet, leaving 10 feet of material still to be removed. When this has been accomplished, the completed section of the Canal at the Pacific entrance will extend from deep sea to the sand dock at Balboa. There are two rock shoals in this part which have been excavated to 36 feet, leaving nine feet of material remaining to be taken out.

The operations of the Pacific dredging fleet extend from deep water in Panama Bay to a point in the Canal prism nearly opposite Corozal, a distance of about eight miles. From Balboa inland there remains considerable excavation to be accomplished, including a number of rock patches. These are being drilled and blasted, after which the material is removed by dipper dredges. A new ladder dredge was recently ordered to supplement the dredging operations at the Pacific entrance. North of the dredging section to, and including the lower lock at Miraflores, the material will be removed hydraulically, and the plant for handling this work is now approaching completion.

There has been a constant filling of the completed channel, as well as other sections covered by the Pacific Division dredging operations, ever since the work was begun in June, 1907. The surveys show that this fill aggregates about 3,600,000 cubic yards in the completed channel, representing 18.4 per cent of the total excavation. The material has come largely from the Rio Grande and other streams that enter the bay nearby, and also from the French channel. The latter was closed by the Naos Island breakwater early in 1909, thereby curtailing the fill from this source to some extent. In addition, there is a slight wash into the Canal channel from the breakwater embankment. The work of removing the original material from the completed section of the channel also included removal of the fill, so that the total of 3,600,000 cubic yards mentioned above counted in the original excavation.

Concrete Work in Pacific Lock Section.

A total of 7,798 cubic yards of concrete was laid in the Pedro Miguel Locks during the week ending June 25, an increase of 360 cubic yards over the previous week. The record in detail follows:

	Cubic Yards.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
June 20	942	328	28	1,298
June 21	970	96	23	1,089
June 22	962	356	17	1,335
June 23	1,098	314	....	1,412
June 24	1,176	340	30	1,546
June 25	808	273	37	1,118
Total	5,956	1,707	135	7,798
Previously reported	....	....	....	157,115
Grand total	....	....	....	164,913

In addition, a total of 382 cubic yards of concrete was laid in Miraflores Locks, bringing the grand total at that point up to 1,064 cubic yards.

Best Week's Concrete Output at Gatun.

A new weekly record for concrete laying in the Gatun Locks was established for the week ending June 25, when a total of 21,682½ cubic yards was produced and placed, an average of about 3,614 cubic yards for each of the six 12-hour working days. The record in detail follows:

	Cubic Yards.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
June 20	2,410	943	287	3,640
June 21	2,480	892	197½	3,569½
June 22	2,318	982	174	3,474
June 23	2,352	1,028	339	3,719
June 24	2,646	700	154	3,500
June 25	2,790	842	148	3,780
Total	14,996	5,387	1,299½	21,682½
Previously reported	....	....	....	477,155½
Grand total	....	....	....	498,838

In addition, 622 cubic yards of concrete and 131 cubic yards of large stone in mass, were laid in the spillway of Gatun Dam during the week, a total of 753 cubic yards.

CANALS UNITED.

Atlantic Dredges Cut Through Bank of the Old French Channel.

The bank of the French canal at Mindi on the approach from the sea was cut through by dredge *No. 5* on Monday, June 20, thereby uniting the waters of the two Canals and marking a distinct advance in the dredging operations of the Atlantic Division.

For some time past dredges *Nos. 5 and 6* have been working their way steadily inland to where the Canal prism will cross the French canal, the former excavating on the right side of the Canal at some distance in advance of its companion dredge, which is removing material from the left side, both dredges working to the center line. The junction was made near the intersection of the center line with the bank of the French canal. The general direction of the latter is north by east, while the Canal prism is on a line almost due north and south, therefore the operations of dredge *No. 5* reached the French canal first at the center line intersection. There remains considerable material to be removed toward the right bank, however, before the half of the prism is entirely opened up. The removal of the earth barrier caused a light current to set in between the two Canals.

Both dredges are excavating in this section to a depth of 25 feet, leaving 16 feet of material still to be taken out before the permanent bottom is reached. The distance from zero, which represents the end of the Canal channel at the Atlantic entrance at deep sea, to the center line of the French canal is five miles plus 2,400 feet, and the original excavation throughout this section is a little more than half accomplished. The old shore line was formerly four and one-half miles from the deep sea end of the channel, so that when the excavation is entirely opened up to the French canal, which will probably be within the next few weeks, the dredging operations will have been extended 5,040 feet, or nearly a mile inland from the original shore line.

On the opposite side of the French canal, protected by a levee, is the cut through the Mindi Hills, partly excavated in the dry by steam shovels. No work has been done at that point since the high water of last December, which flooded the excavation and stopped the steam shovel work. It is planned to place a dredge in this section in the near future.

The suction dredge *Caribbean* is now working in the channel from the three-mile point toward the shore line. The dipper dredge *Chagres* is engaged in removing rock from the prism close to the shore line, and the *Mindi* is continuing the dredging of the harbor in Shelter Cove.

Record Run of Spoil Trains to Gatun.

On June 21, the previous highest day's record made on June 15, of the number of trains of spoil hauled to Gatun by the Central Division for use in making the fill in the Gatun Dam was exceeded, when one train of twenty-three 17-yard cars, eight trains of twenty-five 17-yard cars each, one train of thirty-three 10-yard cars, two trains of thirty-four 10-yard cars each, and seven trains of thirty-five 10-yard cars each were delivered at Gatun, a total of 19 trains, or 569 cars, loaded with 7,151 cubic yards of material. All of the above, except one train of thirty-five 10-yard cars, were started from the Culebra Cut on that date, one train having started the previous day and tied up over night at Juan Grande. In addition to the eighteen trains from the Cut which ran through, one train of thirty-five 10-yard cars and one train of twenty-three 17-yard cars were started from the Cut for Gatun and reached Matachin, while one train of thirty-four 10-yard cars stopped at Juan Grande.

PERSONAL.

Lieut.-Col. D. D. Gaillard, accompanied by Mrs. Gaillard, their son David St. Pierre, and their nephew Henry C. Davis, returned from the States on the steamship *Cristobal* arriving June 27.

Judge Wesley M. Owen sailed for the States June 12, on the steamship *Panama*, on his annual leave of absence.

Mr. William Henry Robertson, who has recently been appointed Consul General at Callao, Peru, accompanied by Mrs. Robertson, arrived on the *Cristobal* on June 27, en route to his new post. He was formerly Consul General at Tangier, Morocco.

Obituary.

The death of Mrs. Lloyd, wife of H. M. Lloyd of Empire, occurred at Ancon Hospital on Monday, June 20. She was 22 years of age and had been on the Isthmus one year. The body was taken to the States on the *Ancon*, on June 25, for interment at her former home in Massachusetts.

Fourth of July Train Service.

In view of the fact that the Fourth of July celebration posters may be somewhat misleading in stating that there will be free train service on the Fourth, it is desired to make clear that only those holding the special Fourth of July tickets will be entitled to the transportation privilege. All others must provide themselves with the usual fares.

Marking Graves of Masonic Dead.

The erection of marble monuments over the graves of six members of the Masonic order buried in Ancon cemetery took place on Sunday afternoon, June 26, under the auspices of the Masonic clubs on the Isthmus. Forty Masons were present and the work of placing the monuments in position was performed by them personally. An address befitting the occasion was delivered by Judge S. E. Blackburn of Ancon.

Porto Bello Crusher Output.

A statement of the work done at Porto Bello crusher, by days, for the week ending June 25, follows:

Date.	Hours worked.	Cubic Yards.
June 20	6:22	1,876
June 21	9:07	2,810
June 22	12:25	3,059
June 23	12:55	2,840
June 24	13:40	3,128
June 25	13:20	3,419
Total	67:49	17,132

Ancon Quarry Operations.

A statement of rock crushed at the Ancon quarry for the week ending June 25, follows:

Date.	Hours worked.	Cubic Yards.
June 20	4:15	1,080
June 21	4:25	1,236
June 22	2:15	552
June 23	5:35	1,632
June 24	4:10	1,044
June 25	3:40	936
Total	24:20	6,480

GATES FOR THE CANAL LOCKS.

Bids for Furnishing Material and Erecting Opened in Washington on June 15.

Bids were opened in Washington on June 15 for furnishing and erecting 46 mitering lock gates of two leaves each, and of certain fixed parts for the same, and for furnishing and delivering certain repair or spare parts. The contract was awarded to the McClintic-Marshall Construction Company of Pittsburg, Pa., whose aggregate bid on the entire lot of material was $5,375,000, and whose proposal was the lowest of the five bids submitted. This is the largest single order ever made by the Isthmian Canal Commission since the beginning of Canal work by the Americans and includes all material required for the construction of all gate leaves, and spare parts for the mitering lock gates on the twin locks of the Canal, the arrangement and number of which are as follows:

Gatun Locks—
  Two upper guard gates, 54 feet 8 inches high.
  Two upper gates, 77 feet high.
  Two middle gates (upper lock), 77 feet high.
  Two safety gates, 77 feet high.
  Two lower gates (upper lock), 77 feet high.
  Two middle gates (intermediate lock), 77 feet 10 inches high.
  Two lower gates (intermediate lock), 77 feet 10 inches high.
  Two middle gates (lower lock), 77 feet high.
  Two lower gates (lower lock), 77 feet high.
  Two lower guard gates, 47 feet 4 inches high.
Pedro Miguel Locks—
  Two upper guard gates, 54 feet 8 inches high.
  Two upper gates, 79 feet high.
  Two middle gates, 79 feet high.
  Two safety gates, 79 feet high.
  Two lower gates, 79 feet high.
  Two lower guard gates, 47 feet 4 inches high.
Miraflores Locks—
  Two upper guard gates, 47 feet 4 inches high.
  Two upper guard gates, 77 feet high.
  Two middle gates (upper lock), 77 feet high.
  Two safety gates, 77 feet high.
  Two lower gates (upper lock), 77 feet high.
  Two lower gates (lower lock), 82 feet high.
  Two lower guard gates, 66 feet high.

Each gate consists of two leaves, respectively, right and left handed with reference to the central axis of the lock chamber. The heights given are the distances from the top of the coping on the lock wall to the top of the sill on the masonry.

The detailed list of material to be supplied under the bid, including quantities, is as follows:

GROUP A.

Lock Gate Leaves and Fixed Parts for Gatun Locks.

GATE LEAVES.

1. 44,351,080 pounds riveted structural steel, including rivets and rough bolts; furnished and erected. (This item covers all material not specifically listed under other items.)
2. 464,240 pounds turned steel bolts and nuts, except those included in items 4, 9, and 10; furnished and erected.
3. 506,080 pounds nickel-steel pins for yoke and bearing plates in quoin and miter posts; furnished and erected.
4. 307,840 pounds manhole and manshaft covers and rings complete; furnished and erected.
5. 3,233,040 pounds carbon-steel castings, except those included in items 4 and 9; furnished and erected.
6. 92,280 pounds cast iron guards in foot walks; furnished and erected.
7. 124,000 pounds vanadium steel upper pintle casting; furnished and erected.
8. 14,000 pounds bronze pintle bushing; furnished and erected.
9. 125,600 pounds hand railings complete, including supports and fastenings and moving mechanism, but omitting electric motors, brakes and limit switches; furnished and erected.
10. Pumping system complete, including sounding wells, but excepting pumps and electric motors—
  144,240 pounds (*a*) piping, valve rods, and connections; furnished and erected.
  6,000 pounds (*b*) valves and stuffing boxes; furnished and erected.
11. 165,360 pounds babbitt metal under nickel-steel bearing plates; furnished and erected.

Total estimated quantity, items 1 to 11, 49,533,760 pounds.

12. 25,200 feet, B. M. greenheart lumber in fenders and sills; furnished and erected.
13. 5,700 square feet concrete foot walk slabs; reenforcing metal included in item 1; other material furnished by Commission; erected only.
14. 16,200 square feet cement in bottom panel; material furnished by Commission; erected only.

FIXED PARTS.

15. 12,800 pounds structural steel in fillers for connection of yokes; furnished and erected.
16. 337,600 pounds vanadium steel yokes and lower pintle castings; furnished and erected.
17. 65,200 pounds nickel-steel pintles and wedges for fastening yokes; furnished and erected.
18. 4,000 pounds bronze in set screws and bushings for yokes; furnished and erected.
19. 139,200 pounds babbitt metal under fixed nickel-steel bearing plates in hollow quoin; furnished and erected.

Total estimated quantity, items 15 to 19, 558,800 pounds.

20. 363,320 pounds nickel-steel bearing plates with bolts and nuts, in hollow quoins; furnished by the Commission; erected only.
21. 32,000 feet, B. M. greenheart lumber in fixed sill; furnished and erected, including placing of bolts and nuts furnished by the Commission.

GROUP B.

Lock Gate Leaves and Fixed Parts for Pedro Miguel and Miraflores Locks.

GATE LEAVES.

1. 56,956,120 pounds riveted structural steel, including rivets and rough bolts; furnished and erected. (This item covers all material not specifically listed under other items.)
2. 595,760 pounds turned steel bolts and nuts, except those included in items 4, 9, and 10, furnished and erected.
3. 649,720 pounds nickel-steel pins for yoke and bearing plates on quoin and miter posts; furnished and erected.
4. 401,200 pounds manhole and manshaft covers and rings complete; furnished and erected.
5. 4,154,440 pounds carbon-steel castings, except those included in items 4 and 9; furnished and erected.
6. 119,320 pounds cast iron guards in foot walks, furnished and erected.
7. 161,200 pounds vanadium steel upper pintle casting; furnished and erected.
8. 18,200 pounds bronze pintle bushing; furnished and erected.
9. 167,200 pounds hand railings complete, including supports and fastenings and moving mechanism, but omitting electric motors, brakes, and limit switches; furnished and erected.
10. Pumping system complete, including sounding wells.
  185,400 pounds (*a*) piping, valve rods and connections; furnished and erected.
  7,800 pounds (*b*) valves and stuffing boxes; furnished and erected.
11. 212,160 pounds babbitt metal under nickel-steel bearing plates; furnished and erected.

Total estimated quantity, items 1 to 11, 63,628,520 pounds.

12. 32,760 feet, B. M. greenheart lumber in fenders and sills; furnished and erected.
13. 8,440 square feet concrete foot walk slabs; reenforcing metal included in item 1; other material furnished by Commission; erected only.
14. 21,060 square feet cement in bottom panel; material furnished by Commission; erected only.

FIXED PARTS.

15. 16,640 pounds structural steel in fillers for connection of yokes; furnished and erected.
16. 138,880 pounds vanadium steel yokes and lower pintle castings; furnished and erected.
17. 84,760 pounds nickel-steel pintles and wedges for fastening yokes; furnished and erected.
18. 5,200 pounds bronze in set screws and bushings for yoke; furnished and erected.
19. 178,560 pounds babbitt metal under fixed nickel-steel bearing plates in hollow quoin; furnished and erected.

Total estimated quantity, items 15 to 19, 724,040 pounds.

20. 466,840 pounds nickel-steel bearing plates, with bolts and nuts, in hollow quoins; furnished by the Commission; erected only.
21. 41,600 feet, B. M. greenheart lumber in fixed sill; furnished and erected, including placing of bolts and nuts furnished by the Commission.

The items in the above list which note that the contractor shall perform the erection only refers to material already contracted for by the Commission, part of which is on the Isthmus.

SPARE PARTS.

GATE LEAVES.

1. 3,500,000 pounds riveted structural steel, including rivets and rough bolts; furnished and delivered. (This item covers all material not specifically listed under other items.)
2. 28,000 pounds turned steel bolts, except those included in item 4; furnished and delivered.
3. 33,200 pounds nickel-steel pins for yoke and bearing plates in quoin and miter posts; furnished and delivered.
4. 17,700 pounds manhole and manshaft covers and rings complete; furnished and delivered.
5. 208,800 pounds carbon-steel castings, except those included in item 4; furnished and delivered.
7. 6,200 pounds vanadium steel upper pintle casting; furnished and delivered.
8. 700 pounds bronze pintle bushing; furnished and delivered.

Total estimated quantity, items 1 to 8, 3,794,600 pounds.

FIXED PARTS.

16. 16,880 pounds vanadium steel yokes and lower pintle castings; furnished and delivered.
17. 3,260 pounds nickel steel pintles and wedges for fastening yokes; furnished and delivered.
18. 200 pounds bronze in set screws and fastenings for yokes; furnished and delivered.

Total estimated quantity, items 16 to 18, 20,340 pounds.

The above covers the furnishing (but not the erection) of all material necessary, in case of accidental injury to any one pair of gate leaves on the Canal, for its prompt repair, or the erection of a new gate in its place. For this purpose, there are to be furnished by the contractor, all essential parts of a gate 82 feet high and a small amount of material from a 79-foot gate.

The aggregate weight of the steel parts in the entire order is about 58,000 tons.

Under the terms of the proposal, the contractor must provide and pay for the transportation, including the loading and unloading of all material furnished by him for the gates and fixed parts and all supplies and erection plant from points of manufacture in the United States, or elsewhere, to the lock sites, excepting only that the Commission will transport the same free of charge from the docks at Colon, Cristobal, or Balboa to the storage grounds adjacent to the several locks, or to the lock sites, and likewise will transport the erecting machinery, derricks, etc., from the lock sites to the docks, free of charge, after the erection is completed. The contractor must, however, at his own cost, do all loading and unloading of materials, supplies and plant from the vessels into the cars at the ports above mentioned, and unload the same at its destination, and shall remain entirely responsible for its safe custody until its final erection, and similarly shall do all loading and unloading of erecting plant shipped back to the United States.

For the storage of material, the Commission will furnish the contractor, free of charge, suitable unoccupied lands convenient to the several lock sites, properly graded and provided with sufficient railroad tracks of 5-foot gage. It will also, at its own expense, construct and maintain a railroad track close to one of the side walls of the locks, and wherever feasible along the whole, or a part of the other wall. It will further furnish free all necessary switching service from the storage grounds to the different gate sites, and provide the contractor for use on the work with a reasonable number of flat cars of 5-foot gage without charge.

The Commission will furnish free all necessary electric current, required by the contractor for lighting the locks and storage grounds, and for operating air compressors, hoists, and other machinery required in erecting gates and fixed parts, and current will be delivered to the contractor close to each gate.

The contractor must employ, at his own expense, all necessary superintendents, erecting engineers, mechanics and clerks. The Commission will furnish such employes with transportation and subsistence from New York to the Isthmus and return at the rate of $30 per single trip. It will supply them while engaged in the work of erecting the gates on the Isthmus with suitable quarters, free of charge, subject to the established regulations of the Commission, and also give them such hotel, commissary and hospital privileges as are granted its own employes. The contractor shall also employ, at his own expense, all common laborers, white or colored. The Commission will give such common laborers on the Isthmus, the same commissary, kitchen and hospital privileges as to its own employes, and will, as far as available, provide free quarters for them. All employes of the contractor will be required to obey all regulations laid down for the government of employes of the Commission. Eight hours shall constitute a day's work, and no overtime will be allowed, except by direction of the Chief Engineer of the Commission.

The terms of the proposal provide that the Commission shall have the right at any time before manufacture is begun to increase or reduce by 20 per cent or less the number of gates and fixed parts specified.

The work of erecting the gates shall be completed by January 1, 1914.

Roster of Isthmian Masons.

A roster of the Master Masons, who have sojourned on the Isthmus at any time since the American occupation of the Canal territory, has been issued in the form of an attractive booklet of 95 pages, bound in leather, with a flap cover. The work, which was designed more as a souvenir of Isthmian Masonry and of the Isthmian Canal than an official emission, was prepared under the direction of the Isthmian Masonic Advisory Board and contains 1,064 names, representing all the states of the Union, with two exceptions, Arizona and Nevada; nearly all of the United States possessions, and about 35 other countries. Many of the Masons whose names are listed in the book have long since left the Isthmus, and the procuring of accurate data consumed upwards of a year's time. The names are given in alphabetical order, and also by geographical divisions. In addition, there is a list of officers and members of the Isthmian Masonic Advisory Board; lists of officers of all the Masonic Clubs, and of Sojourners Lodge, No. 874, Colon. The books have been placed on sale at 75 cents each and can be obtained from Carl P. Hoffman, secretary and treasurer, Isthmian Masonic Advisory Board, Ancon; from any of the Masonic Clubs, or from Sojourners Lodge, Colon.

Canal Zone Not Included.

The Bill to establish postal savings depositories for depositing savings at interest, with the security of the Government for repayment thereof, commonly known as the Postal Savings Bank Bill, which was recently passed by Congress, includes in the scope of its operations the states of the Union, the District of Columbia, the District of Alaska, and Porto Rico, but does not include the Canal Zone.

School Compositions.

ANCON, C. Z., June 18, 1910.

To Principals of Upper Grades:

Thirteen compositions were written on the Canal Zone Waterways. Some were not received until after the date specified, but all were considered. The papers judged to be the best, however, arrived on time.

The compositions have been considered by Mr. Collins, of THE CANAL RECORD, Miss Alexander and myself. Edwin Sibert has been awarded the prize. Mr. Collins suggested that a prize be given for the second best, and kindly offered a book to be used for such purpose. This second prize has been awarded to Chester Harding.

I am sure that all who wrote upon this subject acquired valuable information, which will be an ample reward for their effort.

Very cordially yours,
FRANK P. WAGG,
Supervisor of Upper Grades and High Schools.

Question of Citizenship.

THE CANAL RECORD:

Will you kindly answer the following questions in THE CANAL RECORD?

1. Is a child born in the United States of foreign parents, a United States citizen?

2. Will a child born on the Isthmus of American parents be a United States citizen if taken to the States within the next few years?

3. Is any child a United States citizen befores he becomes of legal age?

FRED. ROSENQUIST.

Gorgona, C. Z., June 10, 1910.

ANSWERS.

1. A child born in the United States of foreign parents is a citizen of the United States.

2. A child born on the Isthmus of American parents is a citizen of the United States whether he is taken to the States or not.

3. A child born of American parents is a citizen of the United States from the moment of his birth.

PANAMA RAILROAD COMPANY.

TIME TABLE FOR PASSENGER SERVICE ON JULY 4TH, 1910.

Supplement No. 1 to Current Time Table No. 6, Effective from 6 a. m. Monday, July 4, to 4.30 a. m. Tuesday, July, 5 1910, **ONLY.**

SOUTHWARD								Distance from Colon.	STATIONS.	NORTHWARD							
FIRST CLASS.										FIRST CLASS.							
135	133	131	129	127	125	123	121			120	122	124	126	128	130	132	134
A. M.	P. M.	P. M.	P. M.	P. M.	A. M.	A. M.	A. M.			A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	A. M.	A. M.
Pass Local	Pass Local	Pass Exp.	Pass Local	Pass Exp.	Pass Exp.	Pass Local	Pass Special			Pass Local	Pass Local	Pass Local	Pass Exp.	Pass Local	Pass Local	Pass Local	Pass Local
1.00	10.00	7.00	4.00	1.00	10.00	6.15		0.00	Leave. † Colon. Arrive.	8.30	9.00	12.15	2.45	6.15	9.15	12.15	3.15
s1.05	s10.05	s7.04	s4.05	s1.04	s10.04	s6.20		1.77	† Mount Hope (Cabin)	s8.23	s8.55	s12.09	s2.41	s6.09	s9.09	s12.09	s3.09
1.11	10.11	......	f4.11	......	......	s6.26		4.37	† Mindi	s8.15	8.49	12.03	......	f6.03	9.03	s12.03	s3.03
												P. M.				A. M.	
s1.17	s10.17	s7.13	s4.17	s1.13	s10.13	s6.33		6.79	† Gatun	s8.10	s8.45	s11.58	s2.31	s5.58	s8.58	s11.58	s2.58
1.20	10.20	7.16	4.20	1.16	10.16	6.36		7.88	† Bridge 15 (Cabin)	8.08	8.43	11.56	2.29	5.56	8.56	11.56	2.56
s1.27	s10.27	7.20	f4.25	1.20	10.20	s6.43		10.41	† Lion Hill	8.00	8.35	11.49	2.25	f5.49	8.49	s11.49	s2.49
s1.35	s10.35	7.25	f4.31	1.25	10.25	s6.49		12.48	Ahorca Lagarto	s7.54	......	11.43	2.20	f5.43	8.43	s11.43	s2.43
s1.42	s10.42	s7.30	s4.39	s1.30	s10.30	s6.56		15.26	† Bohio	s7.48	8.27	s11.37	s2.15	s5.37	s8.37	s11.37	s2.37
s1.49	s10.49	7.35	f4.46	1.35	10.35	s7.05		18.51	Frijoles	s7.38	8.19	11.27	2.09	f5.27	8.27	11.27	2.27
s1.55	s10.55	s7.41	s4.54	s1.41	s10.41	s7.13		21.37	† Tabernilla	s7.31	8.13	s11.21	s2.04	s5.21	s8.21	s11.21	s2.21
s2.00	s11.00	7.45	s4.58	1.45	10.45	s7.18		23.30	† San Pablo	s7.26	8.07	s11.15	2.00	s5.15	s8.15	s11.15	s2.15
......	......	......	f5.00	......	......	f7.20		24.31	Bailamonos	f7.22	......	......	......	f5.13	......	s11.13	s2.13
s2.07	s11.07	7.50	s5.05	1.50	10.50	s7.25		25.74	† Mamei	s7.19	8.02	s11.10	1.55	s5.10	s8.10	s11.10	s2.10
							A. M.										
s2.15	s11.15	s7.56	s5.13	s1.56	s10.56	7.35	7.10	28.27	† Gorgona	7.10	7.55	s11.03	s1.48	s5.03	s8.03	s11.03	s2.03
s2.20	s11.20	8.00	s5.18	2.00	11.00	7.39	s7.15	29.68	† Matachin	A. M.	s7.51	s10.58	1.45	s4.58	s7.58	s10.58	s1.58
s2.24	s11.24	8.03	s5.22	2.03	f11.03	7.42	s7.20	31.01	† Bas Obispo		s7.46	s10.54	1.41	s4.54	s7.54	s10.54	s1.54
s2.30	s11.30	s8.08	s5.28	s2.08	s11.08	7.47	s7.27	32.62	† Las Cascadas		s7.39	s10.47	s1.37	s4.47	s7.47	s10.47	s1.47
s2.36	s11.36	s8.12	s5.35	s2.12	s11.12	7.51	s7.33	34.91	† Empire		s7.31	s10.42	s1.32	s4.42	s7.42	s10.42	s1.42
s2.40	s11.40	s8.16	s5.40	s2.16	s11.16	7.55	s7.38	35.90	† Culebra		s7.25	s10.36	s1.28	s4.36	s7.36	s10.36	s1.36
2.41	11.41	8.17	5.41	2.17	11.17	7.56	7.39	36.52	† Summit (Cabin)		7.20	10.31	1.23	4.31	7.31	10.31	1.31
s2.50	s11.50	......	f5.49	......	......	......	s7.50	39.71	Paraiso		f7.13	f10.24	......	f4.24	......	s10.24	s1.24
2.51	11.51	8.28	5.53	2.28	11.28	8.07	7.55	39.98	† Paraiso (Cabin)		7.10	10.22	1.17	4.22	7.22	10.22	1.22
s2.54	s11.54	s8.29	s5.54	s2.29	s11.29	8.08	s7.56	40.37	† Pedro Miguel		s7.05	s10.20	s1.15	s4.20	s7.20	s10.20	s1.20
s2.58	s11.58	8.32	s5.58	2.32	11.32	8.11	s8.00	41.37	Miraflores		s7.03	s10 18	1.13	s4.18	s7.18	s10.18	s1.18
	A. M.																
s3.05	s12.05	s8.37	s6.05	s2.37	s11.37	8.16	s8.09	44.31	† Corozal		s6.55	s10.10	s1.07	s4.10	s7.10	s10.10	s1.10
f3.08	f12.08	f8.39	f6.08	f2.39	f11.39	f8.18	f8.12	44.99	Camp Diablo		f6.51	f10.06	f1.06	f4.06	f7.06	f10.06	f1.06
3.12	12.12	8.42	6.12	2.42	11.42	8.22	8.17	46.05	† Balboa Junc		6.47	10.02	1.02	4.02	7.02	10.02	1.02
3.15	12.15	8.45	6.15	2.45	11.45	8.25	8.20	47.14	Arrive. † Panama Leave.		6.45	10.00	1.00	4.00	7.00	10.00	1.00
A. M.	A. M.	P. M.	P. M.	P. M.	A. M.	A. M.	A. M.				A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	A. M.
135	133	131	129	127	125	123	121		† Telegraph Station s Stop f Flag	120	122	124	126	128	130	132	134

Train No. 122 will not stop between Gorgona and Colon except to let off passengers from points between Panama and Gorgona.

Train No. 123 will not stop between Gorgona and Panama except to let off passengers from points between Colon and Gorgona.

Train No. 132 will be held at Panama and Train No. 133 at Colon until after Fireworks exhibition is completed.

Train No. 134 will be held at Panama and Train No. 135 at Colon until after the dances. As these two trains are especially provided for accommodation of people attending dances, they will not handle any but first class passengers, and the Panama railroad reserves to itself the privilege of refusing transportation to any applicant.

FOURTH OF JULY EVENTS.

Official Programs for the Celebrations to be Held at Ancon and Cristobal.

The official programs for the Fourth of July celebrations at Ancon and Cristobal are as follows:

Ancon.

AMATEUR ATHLETIC EVENTS—ANCON PARK.

A. M.

9.00 100-yard dash.

9.00 Pole vault.

9.15 880-yard run.

9.20 Shot put (15-pound.)

9.30 75-yard dash for boys under 16 years.

9.40 Running high jump.

9.45 220-yard dash.

10.00 440-yard dash.

10.00 Running broad jump.

10.15 One mile run.

10.20 Tug-of-war. Prizes, $30, and $15.

10.30 One-half mile relay race for boys.

10.45 One mile relay race for men.

9.00 Lawn tennis tournament on Tivoli court.

NOTE—In case wet grounds prevent the use of the Tivoli court, the tournament will be held on the Panama courts.

NOON.

12.00 Exhibition run and Pompier ladder and life saving exhibition by the Ancon fire companies. Start will be made from the vicinity of the Panama railroad depot.

CASH PRIZE EVENTS—ANCON PARK.

P. M.

1.30 Sack race, 75 yards. $10, $5 and $2.

1.45 Pony race for children, ¼-mile. $25 and $10.

2.00 Shoe race. $10, $3 and $2.

2.15 Equipment race, U. S. Marines. $10 and $5.

2.30 Obstacle race. $10, and $5.

2.45 Wall scaling contest, U. S. Marines. $40 and $10.

3.00 Baseball throw for distance. $5.

3.15 Circling bases for time. $5.

3.30 Greased pole contest. $20 and a pig.

EVENING EVENTS.

8.00 Fireworks display in front of Hotel Tivoli.

7.30 Concert by U. S. Marine Band at Hotel Tivoli.

9.00 Dance at Hotel Tivoli. Music will be furnished by the music committee and refreshments will be served.

The amusement committee, composed of W. G. Comber, chairman, J. St. C. Hunt, E. A. Putnam, A. O. Ludwig, Thomas Booz, and B. C. Poole, have appointed officials to have charge of the events of the day, as follows:

Field marshal—Col. J. P. Fyffe. Timekeepers—W. J. Spalding, Balboa; E. O. Smith, Gus Gustavson, Empire. Judges—J. T. Hopkins, Gorgona; Lieut. R. E. Wood, Culebra; H. O. Cole, Corozal. Judge and manager tennis tournament—B. C. Poole, Ancon. Inspectors—J. F. Hart, J. A. Close, H. C. C. Mansfield, Balboa. Starter—A. O. Ludwig, Empire. Referee—Dr. Evaleth W. Bridgman, Ancon. Clerk of course—F. G. Swanson, Gorgona. Judges of finish—A. R. James, Corozal; F. D. Flynn, E. A. Putnam, Culebra. Announcer—J. A. Siler, Balboa. Official scorer—H. R. Seaton. In charge of firemen's exhibition—C. E. Weidman, Cristobal.

All contests on the morning program at Ancon Park are medal events, with the exception of the tug-of-war, and the winners in first, second and third places will be awarded gold, silver and bronze medals of special design. Winners in all other events, except the tennis tournament, will be given cash prizes. In the lawn tennis contest, suitable trophies will be presented. All events, for either the cash or medal prizes, require the 25 cents entry fee, but this fee will be refunded all contestants who compete in the events for which they enter.

Cristobal.

AQUATIC EVENTS.

A. M.

8.30 Sail boat race, triangular course. Distance about five miles. Prize, pennant.

8.40 U. S. Navy steam cutter race, triangular course in Limon Bay, about five miles. Launches *Ruth*, 36 feet, *Mary*, 33 feet. Prize, pennant.

8.45 Aquatic boxing contest, four rounds. A. A. U. rules. Prize, $25.

8.50 Life boat race. Cristobal Point to dock No. 4 and return. Four-oared, single scull, and coxswain. Prizes, $20, $10, and $5, for five or more entries.

9.15 Tugboat race. Straightaway course in Limon Bay, about five miles. Tugs, *Balboa* and *De-Lesseps*. Prize, pennant.

9.30 Dory race. Cristobal Point to dock No. 4 and return. Four-oared, double scull. Prizes, $15, $10, and $5, for five or more entries.

9.40 Class 1 gasoline boat race. Straightaway course in Limon Bay, about five miles. Length of boats, 28 to 38 feet. Open race. Prize, pennant.

10.00 Clapet race. Distance, five miles. U. S. clapets Nos. 2, 4, 12, 14. Finish opposite Cristobal Point. Prize, $25.

10.00 Relay swimming contest. Four men. Prize, gold medals.

10.15 Class 2 gasoline boat race. Straightaway course in Limon Bay, about five miles. Length of boats, less than 28 feet. Prizes, $15 and $5, for three or more entries.

10.30 Swimming race. Distance, 100 yards. Prizes, gold and silver medals.

10.45 Fancy diving contest. Prize, gold medal.

11.00 Greased horizontal spar, 60-foot spar supported on lighter in harbor. Distance, to leave lighter, go to end of spar and return, supported by spar during entire time. Prize, $10.

FIRE DEPARTMENT CONTESTS AND EXHIBITIONS.

9.30 Hose races between volunteer fire companies.

10.30 Coupling contest between individual members of volunteer companies.

11.15 Contest between volunteer companies, consisting of taking out middle section of charged line of hose with nozzle attached, without shutting down hydrant.

NOON.

12.00. Hose races between fire companies of Colon.

P. M.

12.30 Contest between Colon fire companies, consisting of taking out middle sections of charged line of hose, with nozzle attached, without shutting down hydrant.

5.30 Exhibition run by paid fire department.

6.00 Pompier ladder work by paid fire department.

ATHLETIC EVENTS—COLON ATHLETIC PARK.

(Contests will start at 1.30 p. m.)

Shot Put,
Pole Vault.
120-yard hurdle, low.
Boys' 50-yard run (age limit, 16 years).
Sack race, 75 yards. $10, $5, $2.
100-yard run.
Running high jump.
Hammer throw.
440-yard run.
Boys' relay, 880 yards; 4 boys (age limit, 16 years).
Running broad jump.
Tug-of-War, $20.
Fraternal relay, 4 laps, 4 men. $20.
Three-legged run, 100 yards. $15, $6, $2.
220-yard run.
One mile run.
Hop, step and jump.
Pipe race. $10, $3, $2.
Relay, four laps, four men.
Wall scaling contest. $40.

Events other than where cash prizes are mentioned are medal events.

MISCELLANEOUS EVENTS.

A. M.

11.00 Horse racing on Roosevelt Avenue, Cristobal.

NOON.

12.00 Concert by the I. C. C. Band at the Y. M. C. A.

P. M.

EVENING EVENTS.

8.00 Fireworks display off Cristobal Point.

8.00 Illuminated boat parade.

9.00 Grand ball at Lincoln House.

A prize will be awarded the one showing the best day decoration, with colors, palms, flags, etc.

The baseball game, which was to have been held on the morning of the Fourth, will be played on Sunday morning, July 3, at 10 o'clock. It was found impossible to hold the game on the Fourth, because of the necessary work that will have to be done on the field in preparation for the athletic meet in the afternoon.

COMMITTEES.

Frank Gardner Smith, general chairman; and A. C. Harragin, secretary, of the Cristobal celebration. Aquatics—Clement Walker, chairman; Mr. White, Capt. Anderson, Mr. McDaniels, Mr. Shippy, Mr. Corning, Mr. Skilling, Mr. Bradley, Mr. Constantine. Fire Department Exhibitions—Chas. E. Weidman, chairman; C. F. Koerner, H. J. Wempe, Luis F. Estenoz, Efrain Tejada. Prizes—C. R. Chisholm, chairman; A. C. Kilgour. Fireworks—W. F. Shipley, chairman; Sam White. Marines—Lieut. E. H. Conger, chairman, J. D. Safford. Decorations—J. H. Schütte, chairman; James Dailey. Dance—F. K. Pilsen, chairman; H. S. Newcomb, Robert Beverly. Music—Oliver Kimball, chairman; Ben. Jenkins. Program—Arthur Richards, chairman; F. K. Pilsen. Athletic Meet—F. G. Smith, chairman; Arthur Richards, chairman subcommittee on advertising; A. J. Cochran, chairman subcommittee on property; L. G. Thom, chairman subcommittee on grounds; C. R. Chisholm, chairman subcommittee on finance.

TRACK OFFICIALS FOR ATHLETIC MEET.

Referee—Arthur Richards. Starter—W. H. Warr. Clerk of the Course—W. E. Burrell; assistants, M. A. Schwallenberg, J. A. Jameson. Track Judges—Lieut.-Col. W. L. Sibert, Maj. Chester Harding, Capt. C. Nixon. Field Judges—R. M. Sands, G. L. Conley, J. G. Barber. Timekeepers—Lieut. E. H. Conger, R. M. Gamble, R. H. Luce. Scorer—R. W. Hart; assistants, W. H. Kromer, C. A. Kupp. Inspectors—C W. Müenchow, L. F. Leftwich, M. W. Fox, T. C. Morris, J. H. Hubbard. Announcer—Guido Bello Fluto Pompeji. Field Marshal—W. J. Dawson.

There will be no admission fees, or other charges, the cost of the two celebrations being borne by subscriptions from the Canal employes and Isthmian merchants. Special trains will be run over the Panama railroad in accordance with the schedule which appears on another page of this issue of THE CANAL RECORD.

Rules Governing the Use of Marine Equipment on the Fourth of July.

The following rules have been drafted by the Board of Local Inspectors, which will govern the use of the marine equipment of the Commission and Panama Railroad Company at the Fourth of July celebration in Cristobal.

1. That races in which steam tugs, clapets, steam launches and gasoline boats are factors, the start shall be made over an imaginary line drawn between two marking buoys, and the finish shall be on another line of the same description at the end of the course. This will make a straightaway course with no turns.

2. That no highly inflammable substance shall be used in the furnaces, such as kerosene, rosin, etc., but only coal and wood.

3. That only the ordinary service steam pressure shall be allowed on the boilers, as already fixed by the boiler inspection department.

4. That the proper amount of water shall be carried in the boilers at all times, and in the event of the water dropping below the third gage the boat shall be stopped at once.

5. That the boats shall run in parallel courses and shall at no time be closer than two boat lengths from each other.

6. That no one shall be carried on the boats, except the crews and the necessary inspectors.

7. That an inspector from the boiler inspection department shall be assigned to each boat, who shall see that the foregoing rules in regard to fuel and boiler service are strictly observed, and he shall in each case make a report covering the same.

Rainfall, June 1 to 25, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	2.02	15	6.62
Balboa	3.67	15	8.19
Miraflores	2.20	15	9.95
Pedro Miguel	1.51	15	11.24
Rio Grande	1.65	18	8.83
Central Section—			
Culebra	1.54	18	7.86
Camacho	1.30	13	7.53
Empire	.99	12	7.36
Gorgona	3.50	4	11.16
Gamboa	1.95	3	10.01
Alhajuela	1.97	16	11.81
El Vigia	2.79	4	10.10
San Pablo	2.00	3	8.38
Tabernilla	1.73	3	8.14
Bohio	2.49	19	10 31
Monte Lirio	3.64	2	14.94
Atlantic Section—			
Gatun	3 63	2	10.21
Brazos Brook	2.87	2	9.20
Cristobal	3.30	2	10.24
Porto Bello (to 5 p. m., June 23)	1.60	20	10.07

The arrivals and departures of vessels at the port of Balboa for the week ending June 25, were as follows:

Arrivals—June 21, *Acapulco*, from San Francisco, and *Huallaga*, from south ports; June 24, *Arica*, from Guayaquil, and *Palena*, from south ports.

Departures—June 19, *Chile*, for south ports; June 22, *Pennsylvania*, for San Francisco; June 24, *Manavi*, for Buenaventura and Tumaco; June 25, *Huallaga*, for south ports.

SOCIAL LIFE OF THE ZONE.

Women's Clubs.

The program and calendar committee of the Cristobal Woman's Club met at the home of the president on Wednesday afternoon, June 21, for the purpose of perfecting plans for the season's work of the club. The program will be completed and placed in the hands of the printer, in order to have it ready for distribution at the opening of the season. The special efforts of the club will include work in aid of the Salvation Army on the Isthmus and it is proposed to hold a "Club Day," when members of the other clubs in the Zone will be invited to hear a lecture on the work by Mrs. Elmer Watson, wife of Adjutant Watson, head of the Army on the Isthmus. The proceeds of the annual charity ball will be devoted to philanthropic purposes. The fifth of October has been decided upon as the date for the opening of the season, when the reception to the outgoing and incoming presidents will be held.

A reorganization of the Paraiso Woman's Club was effected Wednesday afternoon, June 22, when Mrs. W. J. Heslop was elected president and Mrs. I. Coutermarsh secretary. It is proposed to hold the meetings weekly and to take up some study, or to arrange a regular program for each meeting. An outline of the work, together with a set of by-laws, will be presented at the next meeting.

The preparation for publication of the Canal Zone Federation Cook Book has been placed in the hands of a special committee and the edition will be issued as soon as possible. In addition to the 250 recipes now in hand, it is desired to have 100 more. Recipes for soups, the preparation of fish dishes, meats, and native fruits are especially desired. The book will be ready for the Federation meeting in October, and it is probable that arrangements will be made to have copies placed on sale at the Panama railroad commissaries. All communications regarding the Cook Book and recipes may be addressed to Mrs. P. T. Murphy, Cristobal, C. Z.

The club season of the Gatun Woman's Club closed with the social meeting held at the home of Mrs. Charles Kratley on Friday afternoon, June 24. The meetings will be resumed in October.

Church Work.

An entertainment in aid of St. Luke's Church, Ancon, will be held in Ancon Hall on Saturday evening, July 2. Mr. Carl Steventon, a sleight-of-hand performer engaged to give a series of entertainments at the Commission clubhouses, will furnish the program. Tickets may be purchased at the Tivoli Hotel and at the office of the District Quartermaster. A part of the proceeds will be devoted to the organ fund.

Charter Member Day was observed by the Altar Guild of St. Luke's Church on Tuesday afternoon, June 21, the meeting being held at the residence of the chaplain. There were 18 present, including four charter members. Of the 16 charter members, 12 are still residing on the Isthmus, three have been made honorary members and one an associate member. The Guild has continued its work on the lines adopted at the initial meeting, only two changes having been made in the by-laws subsequently adopted. The present active membership is 29, and the average attendance at the semimonthly meeting is 19. The next meeting of the Guild will be held at the home of Mrs. Wesley Owen on Tuesday afternoon, July 5.

Miscellaneous Events.

The Wizards will hold their monthly dance at the Empire clubhouse on Friday evening, July 1. The following week, July 9, the dance of the Terpsichoreans will be held at Empire.

Dances were held at Pedro Miguel on Friday evening, June 24; at Paraiso on Saturday evening, June 25, and at Ancon Hall, by the Pacific Masonic Club, on the same date. The regular semimonthly dance of the Tivoli Club was also held on Saturday evening.

The monthly dance of the Gatun Club was held in the Commission clubhouse on Saturday evening, June 25.

An open dance will be given by the Corozal Dancing Club at the Recreation Hall, Corozal, on Saturday evening, July 2. A special train will be run leaving Ancon at 7.15 p. m., Paraiso at 7.45 p. m., and Pedro Miguel at 7.50 p. m., for accommodation of the residents of those towns who desire to attend.

Colon Club Dance Postponed.

At a meeting of the board of governors of the Colon Club held on June 20, 1910, it was decided to dispense with the dance on the first Saturday of July, on account of the dance which will be held in the Lincoln House on the night of the Fourth by the Fourth of July Committee.

A. A. GREENMAN, *Secretary*.

Colon, June 23, 1910.

Operetta by High School Pupils.

The Canal Zone High School held its first entertainment in the Commission clubhouse at Cristobal on Tuesday evening, June 21, and repeated it in the clubhouse at Gatun on Friday evening, June 25, to large audiences. The entertainment consisted of a two-act operetta entitled "Pauline, or An Eventful Day", by Charles Gabriel. Thirty students of the High School took part, assisted by 15 boys of the fifth, sixth and seventh grades of the grammar school, who, as grenadiers, performed a drill. Messrs. Glick, Robinson, French and McArthur also assisted. The operetta was produced under the direction of Prof. C. C. Carr, principal of the High School, and Prof. C. E. Jennings. The orchestral music was furnished by the I. C. C. band, assisted by Miss Lucy Partello, class '11, at the piano. Those who held leading parts were: Misses Johnson, Lindersmith, Calkins, Faure, LeMay, Hackenberg and Jennings; Messrs. Albert Smith, Franklin Johnson and C. C. Carr. Twenty students composed a chorus of picnickers and villagers. The operetta will be given at the clubhouse in Gorgona on Friday evening, July 1.

A call has been issued for the annual reports of the various departments of Canal work for the fiscal year 1909-10 to be in hand not later than August 1.

Married.

BREWER-BUCKLEY—At Cristobal on June 1, by District Judge M. C. Kerdell, Mary Agatha Buckley of Watervliet, N. Y., and Mr. William Wallace Brewer of St. Paul, Minn Canal Zone residence, Toro Point.

WOLVERTON—COOK—At Denver, Colorado, on Sunday, June 5, 1910, Elizabeth Cook of Boulder, Colorado, to David R. Wolverton of Ancon, C. Z., Dean Peck officiating.

OFFICIAL CIRCULARS.

Independence Day.

CULEBRA, C. Z., June 22, 1910.

CIRCULAR NO. 337:

Independence Day, Monday, July 4, 1910, will be observed as a holiday in the Canal Zone, and, as far as practicable, all public business will be suspended on that day.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Work Requests for Ensuing Fiscal Year.

CULEBRA, C. Z., June 22, 1910.

CIRCULAR NO. 197-E:

Circulars No. 197-C of June 30, 1909, and No. 197-D of July 1, 1909, covering the use of Form 159-C. E., will remain in effect during the fiscal year beginning July 1, 1910.

Work requests next year will be numbered consecutively, in continuation of the numbering of the work requests issued during the present fiscal year, and without starting a new series.

Referring particularly to Circular No. 197-D, covering the issue of a blanket work request covering service, small repairs and manufacturing work of a minor nature. This will be allowed to run the entire fiscal year, subject to termination or modification if found necessary at any time. It is directed that all divisions cover their requirements of this character by new blanket order work requests, to be forwarded for approval as soon after July 1 as practicable.

H. F. HODGES, *Acting Chairman.*

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, June 25, 1910.

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Lake.)
Height of low water above sea-level, ft..	125	92	46	0	0
Maximum height ab. mean sea-level, feet:					
Sunday, June 19....	130.9	96.8	51.1	18.7	17.7
Monday, June 20...	129.9	96.6	51.2	18.9	18.0
Tuesday, June 21...	128.0	95.1	48.8	18.2	17.8
Wed'esday, June 22	127.4	94.2	47.7	17.6	17.5
Thursday, June 23..	128.4	94.7	47.6	17.2	17.0
Friday, June 24....	128.5	94.8	48.2	16.9	16.6
Saturday, June 25..	128.2	94.6	48.1	16.6	16.4

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending July 6, 1910, (75th meridian time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	A. M.	P. M.	P. M.
June 30......	....	3.05	9.12	3.40	9.35
July 1......	....	4.00	10.09	4.40	10.38
July 2......	... .	5.02	11.10	5.41	11.47
			P. M.		
July 3......	....	6.04	12.13	6.43	....
July 4......	12.53	7.06	1.15	7.42	....
July 5......	1.56	8.07	2.15	8.38	....
July 6......	2.54	9.03	3.10	9.32	....

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., June 29, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Adams, Miss Alaxandrina
Anderson, L. H.
Barnes, Mrs. W. I.
Bell, A. L.
Boig, H. J.
Carr, Challiss C.
Connor, F. W.
Cottrell, Richmond
Eisemann & Eleta
Erickson, Miss Evelyn
Foster, Frank
Foth, B. G.
Fritot, Mrs. C. J.
Gardner, Ellsworth F.
Gerig, W.
Gray, Miss Helen
Hannibal, J. J. A.
Heath, C. L.
Henshaw, Miss Leslie
Kahrmann, H.
Kelly, M. J.
Kendrick, Patrick F.
Kingman, Newall
Knapp, Gus
Manis, Mrs. Chas.
McConaghy, B. (2)
Moore, Tom O.
Moseley, Philip P.
Nellis, Miss Evangelin
Picken, H. E.
Rodriguez, Oscar
Safford, J Dwight
Severn, Mrs. William
Slayback, Robert
Smith, E. R.
Stroup, A. R.
Tautt, John
Thonet, A. C. (2d class.)
Tracy, E. H.
Voight, A. D.
Williams, Thos. F.
Wislon, Henry

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

C. M. Wilson won the rapid transit chess contest on Friday evening, June 24. There were ten contestants.

A meeting of the camera club was held on Tuesday evening, June 21, at which steps were taken for a trip in the near future. Another meeting of the club will be held on Wednesday evening, June 29, when information relative to the most desirable points to be visited, will be presented, and a date chosen for the trip.

Mr. Carl Steventon, the English wizard, is due to arrive on the Isthmus on June 30, and will give the first of his demonstrations at the clubhouse on Friday evening, July 1. Members, free; price to nonmembers, 50 cents; children, 25 cents.

GORGONA.

A second performance was given by the Gorgona minstrels on Thursday night, June 23.

The local bowling tournament has had an auspicious start, the "Skeeters" leading with a percentage of .666. A tournament began Monday among the night men, nine having entered. They are to roll each other three times apiece, bowling on Monday, Wednesday and Friday afternoons.

Mr. J. D. Safford gave an entertaining talk on Sunday evening. Solos were given by Mrs. G. H. Pierson and Mr. E. C. Briggs, with Miss Edith Anderson accompanying.

EMPIRE.

The inside of the building has been thoroughly repaired and painted, presenting an attractive appearance. It is planned to add colored lights to the veranda.

The first prize in the recent local pool tournament was won by Mr. H. M. Pearson, and the second prize by D. J. McKeever. Most of the games were close and interesting. There were 14 entries.

In the match game of pool last Saturday evening, Mr. Soffitt of Paraiso defeated H. M. Pearson in a close game, the score being 100 to 96.

Twenty-five charter members signed the constitution at the meeting of the literary society last Friday evening.

Owing to the illness of Gus Gustavson, the bowling matches with other clubhouses during the week were postponed.

This week's attractions consist of local chess and checker matches, in which several new players are entered, and the usual features.

GATUN.

The Gorgona minstrels will give an entertainment in the clubhouse on Thursday evening, June 30. Jennings' orchestra will furnish music. Members free.

Robert Watson, a member of the local association, challenges any one at dominoes for the championship of the Zone.

The pool tournament has ended: G. L. Hughes, who won in Class A, played A. F. Kenney, winner in Class B, with a concession of 25 balls for the latter, and the game resulted: Hughes, 100; Kenney, 47. Mr. Hughes receives the gold medal, and Mr. Kenney the silver medal, offered as prizes.

A musical service was held at the clubhouse on Sunday evening. The Panama railroad orchestra played several selections; Mrs. C. R. Hughes sang "Fear Not, O Israel," accompanied by Mr. Glick, and E. A. Pulman of the Culebra clubhouse delivered an address on "Good Workmanship."

The class in "Men of Steel" will close its series of studies next Tuesday night, when the character of Job will be discussed.

Mr. Fox, the teacher of the mechanical drawing class, has returned and will conduct it on Friday night.

Mr. Poore, office assistant in the clubhouse, has returned from a short stay at Taboga.

Olin Sibert, a West Point student, who is spending his vacation with his parents in Gatun, was elected captain of the Gatun athletic team for the Fourth of July celebration at Cristobal.

Mr. Dalton has the lead in duck pins, with a score of 124. So far this month, 28 scores of 200 and over have been rolled in ten pins, with 243 in the lead. In the two-man ragtime bowling tournament, 1,084 still leads. Thirteen teams have gone over 1,000; eighteen other teams rolled between 950 and 1,000. The highest score for three games for one man is 576. An interesting finish is expected in this tournament.

Empire will bowl at Gatun on Saturday evening, July 1.

Mr. DePoorter plays Mr. Hughes at pool this week, conceding 50 balls in 150. He is open to a challenge from any player on the Isthmus.

CRISTOBAL.

The Cristobal chess club went to Porto Bello on invitation Saturday night to play the chess club there. The hospitality of the Porto Bello chess players was enjoyed. The Class A players were a tie in the total number of games played. The Class B tournament resulted in Cristobal winning 9 games and Porto Bello 1.

The championship tournament completed Saturday, June 19, resulted in the winning of the title and a gold medal by Mr. Alfred Schaff. Mr. Chas. G. Cleall won second prize and a silver medal. He leads Class B. The contest was hard fought and completed in unusually quick time, commencing June 3, with the finals on June 18. The following is the official standing of the four leaders in each class:

	Played.	*Won.*	*Lost.*	*Per Cent.*
CLASS A.				
Schaff	3	2½	½	.833
Davidson	3	2	1	.667
Shutes	3	1½	1½	.500
Alper	3	0	3	.000
CLASS B.				
Cleall	3	2	1	.667
Pike	3	2	1	.667
Ware	3	1	2	.333
Rattiner	3	1	2	.333

Cleall won the tie with Pike, and Ware with Rattiner.

The Cristobal bowlers won from the Gorgona team last Saturday night with the following scores:

Cristobal, 826, 805, 849; Gorgona, 801, 806, 763. It took 12 frames to decide the second game, and Gorgona won in the roll-off.

Mr. Steventon's Schedule of Dates.

Mr. Carl Steventon, the English wizard, will appear in the Canal Zone under the management of the Y. M. C. A., as follows:

Culebra, Friday, July 1; Ancon, Saturday, July 2; Gorgona, Tuesday, July 5; Corozal, Wednesday, July 6; Empire, Thursday, July 7; Gatun, Friday, July 8; Porto Bello, Saturday, July 9; Cristobal, Monday, July 11.

Proposals for Standard Laborers' Barrack No. 2 at Porto Bello.

Sealed proposals, for labor only, will be received at the office of the Constructing Quartermaster, Culebra, C. Z., until 3 p. m., July 2, 1910, and then opened for the erection by contract of a standard laborers' barrack No 2, at Porto Bello. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $150 when the contract is signed.

C. A. DEVOL,
Chief Quartermaster.

Sale of Phonographs at Public Auction.

EMPIRE, C. Z., June 16, 1910.

There will be sold at public auction by the District Quartermaster at Empire, Canal Zone, on the premises at 3 p. m., July 2, 1910, to the highest bidder for cash, the following Isthmian Canal Commission property: One Victor Phonograph, which will be removed from the premises by the successful bidder within five days from date of sale.

The Government reserves the right to reject any or all bids.

For further information apply to the Y. M. C. A., Empire, Canal Zone.

C. A. DEVOL, *Chief Quartermaster.*

CULEBRA, C. Z., June 25, 1910.

There will be sold at public auction, by the District Quartermaster at Cristobal, Canal Zone, at his office at 5.30 p. m., Wednesday, July 6, 1910, to the highest bidder for cash, the following Isthmian Canal Commission property: Victor Phonograph, now at Y. M. C. A. For further information apply to the District Quartermaster, Cristobal, Canal Zone.

C. A. DEVOL, *Chief Quartermaster.*

Sale of Animals at Public Auction.

CULEBRA, C. Z., June 25, 1910.

There will be sold at public auction, by the District Quartermaster at Ancon, Canal Zone, at the old corral, at 2 p. m., Saturday, July 16, 1910, to the highest bidder for cash, the following Isthmian Canal Commission property: Two (2) mules, American; three (3) horses, American; one (1) pony, native. The Government reserves the right to accept or reject any or all bids. For further information apply to the District Quartermaster, Ancon, Canal Zone.

C. A. DEVOL, *Chief Quartermaster.*

Bids for Lease of Building.

Bids will be received by the Collector of Revenues, up to and including June 30, 1910, for the leasing to the highest bidder, from August 1, for a period of time not in excess of three years, of building No. 20, at Balboa, owned by the Canal Zone Government. The building is of French construction, one story, and contains four rooms. Bids should be enclosed in envelopes marked "Bids for a lease to building No. 20, at Balboa."

TOM M. COOKE,
Collector of Revenues.

BASEBALL.

Atlantic League vs. Isthmian League.

The first game of baseball to decide the supremacy between the Atlantic League and the Isthmian League was played at Cristobal on Sunday, June 26, and resulted in a tie—8 to 8—in the eighth inning, when rain prevented further play.

The same teams will play an exhibition game at the Colon park on the morning of July 3, at 10 o'clock, for a purse of $100, the prize offered by the general Fourth of July committee. There will be no charge for admission to this game, as it was originally scheduled to be played on the morning of the Fourth.

In the afternoon at 3 o'clock, a regular championship game will be played between the players of the two leagues, under the arrangements entered into by the representatives of the contending teams.

The score of last Sunday's game follows:

A. L.	AB.	H.	PO.	A.	E
Edwards, rf	4	1	0	0	1
Sullivan, 3b	3	1	1	0	3
Curtis, ss	4	1	3	5	2
Muggleton, 2b	3	0	1	1	1
McCusty, c	3	1	4	3	0
Lindberg, lf	4	1	1	0	0
McGinnis, cf	3	2	2	1	0
Payne, 1b	3	0	11	0	1
Mosher, p	3	2	1	7	0
Totals	30	9	24	17	8

I. L.	AB.	H.	PO.	A.	E
Clements, cf	4	1	0	1	0
Markley, ss	3	1	3	1	1
Barney, rf	3	1	1	0	0
Wright, 1b	3	0	9	0	1
Bell, lf	3	1	1	0	2
Pearman, 3b	4	0	0	3	0
Emery, 2b	4	1	1	1	1
Moore, c	4	3	6	2	0
Marshall, p	3	0	0	1	0
Munsen, p	1	0	0	0	0
Totals	32	8	21	9	5

Atlantic League............ 0 0 0 1 1 4 2 x—8
Isthmian League........... 0 0 0 0 0 5 3 0—8

Runs—A. L.: Edwards, Sullivan (3), Muggleton, McCusty, Lindberg, McGinnis; I. L.: Clements, Markley (2), Barney (2), Bell, Pearman, Emery. Earned runs—A. L., 2. First base on balls—Off Mosher, 2; off Munsen, 1. Left on bases—A. L., 4; I. L., 5. First base on errors—A. L., 4; I. L., 5. Two base hits—Mosher (2), McGinnis, Barney, Edwards. Struck out—By Mosher, 4; by Marshall, 4. Stolen bases—Sullivan, Markley (2), Barney (2), Bell (2), Emery, Moore (2.) Sacrifice fly—McCusty. Sacrifice hit—Wright. Double play—McGinnis to Sullivan. Passed ball—Moore. Hit by pitcher—Markley, Clements, Muggleton. Hits—Off Marshall, 8 in 6⅔ innings. Umpire—Foster. Time of game—2.05.

Isthmian League Fielding Averages.

Following are the fielding averages of the players who took part in five or more games in the Isthmian Baseball League:

NAME AND CLUB.	G.	PO.	A.	E.	PC.
Heltemes, Gorgona	6	5	1	0	1000
Moore, Empire	19	147	29	2	.983
E. Fluharty, Empire	24	57	3	1	.983
Yingling, Ancon	8	55	12	2	.971
Maguire, Marines	18	180	14	6	.970
Wright, Gorgona	23	194	8	8	.962
Christopher, Empire	17	19	30	2	.961
Clements, Gorgona	21	41	3	2	.956
Frampton, Ancon	13	56	5	3	.953
Herring, Gorgona	15	88	26	6	.950
Kinney, Gorgona	6	16	3	1	.950
Drennan, Ancon	15	29	6	2	.946
Nygren, Ancon	22	130	33	11	.937
Bell, Empire	21	181	12	13	.937
Hurrle, Marines	10	14	1	1	.937
Barney, Gorgona	25	103	29	9	.936
Smith, Ancon	24	139	28	13	.928
Volman, Marines	17	31	33	5	.928
Magee, Gorgona	19	47	4	4	.927
Burke, Marines	11	36	1	3	.925
Heinz, Marines	10	26	11	3	.925
Conway, Marines	10	53	15	6	.919
S. Fluharty, Empire	15	16	23	4	.907
Bryan, Empire	16	45	30	8	.904
Tinsley, Ancon	22	30	44	8	.902
Hunter, Ancon	24	46	9	6	.902
McCabe, Marines	9	24	20	5	.898
Wrightson, Ancon	8	9	24	4	.892
Markley, Empire	18	62	30	12	.885
O'Brien, Marines	8	17	6	3	.885
Munsen, Marines	23	17	72	12	.881
J. Ridge, Gorgona	9	12	17	4	.878
Emery, Gorgona	24	43	50	13	.877
Dixon, Empire	22	70	44	16	.877
Massen, Gorgona	10	5	9	2	.875
Marshall, Empire	16	9	39	7	.873
Snyder, Ancon	18	18	22	6	.869
Cole, Gorgona	11	7	19	4	.867
Case, Gorgona	18	14	44	9	.866
Bath, Gorgona	5	10	9	3	.864
Pearman, Ancon	23	44	41	12	.862
Dougherty, Gorgona	15	30	26	10	.848
Murphy, Empire	24	28	4	5	.844
Burns, Marines	6	9	12	4	.840
Lubomski, Marines	18	36	10	9	.836
Snyder, Marines	18	35	20	12	.821
Todd, Marines	9	13	8	5	.808
Scarff, Marines	22	40	39	19	.806
Herring, Empire	6	3	1	1	.800
Keller, Ancon	22	32	7	10	.796
A. Ridge, Gorgona	14	9	18	7	.788
Poltrino, Ancon	8	3	0	1	.750
Culbertson, Gorgona	6	8	0	3	.727
Thompson, Empire	5	2	6	3	.727
Toone, Empire	18	14	15	11	.725
Shephard, Marines	5	2	4	3	.667
Silke, Marines	7	4	1	4	.556

COMMISSARY DEPARTMENT.

Commissaries Close on July 4.

CRISTOBAL, C. Z., June 23, 1910.

CIRCULAR No. 191:

Monday, July 4, being a legal holiday, this store will be closed. Patrons should be guided accordingly in placing their orders. JOHN BURKE, *Manager.*

Approved:
F. O. WHITLOCK, *Acting Subsistence Officer.*

Quarterly Inventory.

CRISTOBAL, June 23, 1910.

CIRCULAR No. 192:

This store will be closed on June 30 for the purpose of taking the regular quarterly inventory.

The grocery and cold storage departments will open not later than 9. a. m., July 1. Other departments will remain closed until proper and careful inventory is taken by the storekeeper and checked by the Auditor. JOHN BURKE, *Manager.*

Approved:
F. O. WHITLOCK, *Acting Subsistence Officer.*

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning June 25.

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (5 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (5 to 8 pounds)	per lb	24
Chops	per lb	26
Cutlets	per lb	26
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	2
Soup	per lb	5
Stew	per lb	9
Corned	per lb., 12, 14,	16
Chuck roast	per lb	13
Pot roast	per lb	15
Rib-roast, second cut (not under 3½ pounds)	per lb	18
Rib-roast, first cut (not under 3 pounds)	per lb	20
Sirloin roast	per lb	21
Rump roast	per lb	21
Porterhouse roast	per lb	21
Steak, Chuck	per lb	14
Round	per lb	15
Rib	per lb	20
Sirloin	per lb	21
Porterhouse	per lb	21
Rump	per lb	21
Tenderloin	per lb	24

MISCELLANEOUS.

Livers—Beef	per lb	10
Calf	each	60
Half	each	30
Sausage—Pork	per lb	17
Bologna	per lb	14
Frankfurter	per lb	14
Leberwurst	per lb	14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	25
Eggs, fresh	dozen	28
Shads	each	75
Shad Roes	pair	40

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each 70, 82, 93, 1.04,	1.15
Ducks, large	each	1.50
medium	each	1.30
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese	each	2.50
Pheasants	each 70,	1.00
Partridges	each	50
Grouse	each	85

CURED AND PICKLED MEATS.

		Price.
Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Sugar cured	per lb	21
Sugar-cured, sliced	per lb	25
Half, for boiling	per lb	22
Boiled	per lb	28
Hocks	per lb	‡8
Bacon—Breakfast, whole piece	per lb	28
Breakfast, sliced	per lb	29
Beef, salt, family	per lb	12
Pork, salt, family	per lb	18
Ox tongues	each	80
Pigs' feet	per lb	10
tongues	per lb	16
Mutton, mess	per lb	7

DAIRY PRODUCTS.

Butter—Creamery special	per lb	40
Cheese—Roquefort	per lb	38
Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	26
Edam	each	1.00
Neufchatel	each	6
Gouda	per lb	34
Milk, Briarcliff	bottle	**25

VEGETABLES AND FRUITS.

Celery	per hd	8
Lettuce	per hd	8, 12, 16
Cucumbers	per lb	5
Potatoes, white, old	per lb	3½
white, new	per lb	3½
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	5
Tomatoes	per lb	8
Turnips	per lb	4½
Carrots	per lb	†5
Beets	per lb	†6
Parsnips	per lb	3
Cabbage, new	per lb	*3½
Rhubarb	per lb	5
Green Corn	per doz	48
Asparagus	bunch	20
Lemons	dozen	24
Oranges, California	dozen	36
Watermelons	each	35
Canteloupes	each	10
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4
Pineapples	each	18

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Supplies for Canal Work.

The following steamers, with supplies for the Isthmian Canal Commission, arrived at the ports of Cristobal and Colon during the week ending June 25, 1910:

Colon, June 19, from New York, with 23 cases machinery, 6 cases motor parts, 9 packages dredge repair parts, 4 bales rubber hose, and 12 cases machinery for Atlantic Division; 45 bundles rounds, and 31 pieces castings for Central Division; 10 barrels fire-brick for Pacific Division; 136 cases incandescent lamps, 301 packages couplers and parts, 203 pieces castings, 50 bundles castings, 60 locomotive tires, and 5 cases electrical machinery for Mechanical Division; 16 axles, 9 cases envelopes, 14 crates fellces, 54 barrels rock salt, 200 kegs bolts, 130 kegs screws, 12 cases screws, 15 cases writing paper, 17 cases sledges, 7 cases files, 1,453 pieces W. I. pipe, 20 cases railroad picks, 506 bundles shovels, 258 pieces steel angles, 1,850 pieces steel bars, 2,317 bundles galvanized iron sheets, 20 cases sheet iron, 12 cases solder, 27 cases salt water soap, 20 cases water meters, 101 cases iron bolts and nuts, 30 kegs nails, and 25 cases rubber hose for stock; and a miscellaneous cargo, the whole consisting of 8,209 packages weighing 798 tons.

Orotava, June 19, from New York, with 11 crates miscellaneous material for stock.

Sarnia, June 21, from New York, with 8 coils rope, 280 kegs rivets, 61 cases bolts, and 50 water closets, complete for stock.

Turrialba, June 23, from New Orleans, with 70 tons dump car parts for Cristobal shops (for erection); 19 pieces machinery for Atlantic Division; 20 cases yellow ochre, 250 cases lamp oil, and 806 yellow pine cross-ties for stock.

Metapan, June 24, from New York, with 1 stiff-legged derrick and engine for Atlantic Division; 25 half-barrels bolts, 3 barrels bolts, 50 coils rope, 26 cases carbons, 14 cases tape fuse, and 11 cases brass and copper tubes for stock.

Advance, June 25, from New York, with 6 crates fire-brick, and 14 bundles castings for Atlantic Division; 8 cases electrical material, 7 cases motor and parts, and 15 cases steel for Pacific Division; 22 cases incandescent lamps, and 200 pieces car couplers for Mechanical Division; 116 cases drugs and 7 cases miscellaneous material for Sanitary Department; 29 cases envelopes, 8 cases type, 100 crates refrigerators, 13 cases ink, 83 pieces steel bars, 17 cases metal, 106 pieces steel plates, 8 crates oil cans, 100 cases sapolio, 10 cases machetes, 300 kegs bolts, 40 cases metal polish, 12 kegs rivets, 27 cases paper, and 10 kegs washers for stock; and a miscellaneous cargo, the whole consisting of 1,378 packages, weighing 217 tons.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Panama	P. R. R.	Friday	June 24
Allianca	P. R. R.	Thursday	June 30
Colon	P. R. R.	Thursday	July 7
Advance	P. R. R.	Tuesday	July 12
Panama	P. R. R.	Monday	July 18
Allianca	P. R. R.	Saturday	July 23
Colon	P. R. R.	Friday	July 29
Advance	P. R. R.	Thursday	Aug. 4
Panama	P. R. R.	Thursday	Aug. 11
Allianca	P. R. R.	Wednesday	Aug. 17
Colon	P. R. R.	Tuesday	Aug 23

CRISTOBAL TO NEW YORK.

Advance	P. R. R.	Thursday	June 30
Cristobal	P. R. R.	Thursday	July 7
Panama	P. R. R.	Wednesday	July 6
Allianca	P. R. R.	Tuesday	July 12
Colon	P. R. R.	Tuesday	July 19
Advance	P. R. R.	Saturday	July 23
Panama	P. R. R.	Saturday	July 30
Allianca	P. R. R.	Thursday	Aug. 4
Colon	P. R. R.	Wednesday	Aug. 10
Advance	P. R. R.	Tuesday	Aug. 16
Panama	P. R. R.	Tuesday	Aug. 23
Allianca	P. R. R.	Monday	Aug. 29

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

NEW YORK TO COLON.

Zacapa	U. F. C.	Thursday	June 23
Almirante	U. F. C.	Thursday	June 30
Prinz Aug. Wilhelm	H.-A	Saturday	July 2
Santa Marta	U. F. C.	Thursday	July 7
Clyde	R.-M.	Saturday	July 9
Metapan	U. F. C.	Thursday	July 14
Prinz Joachim	H.-A	Saturday	July 16
Zacapa	U. F. C.	Thursday	July 21
Atrato	R.-M.	Saturday	July 23
Prinz Aug. Wilhelm	H.-A	Saturday	July 30
Tagus	R.-M.	Saturday	Aug. 6
Prinz Joachim	H.-A	Saturday	Aug. 13
Prinz Aug. Wilhelm	H.-A	Saturday	Aug. 27
Prinz Joachim	H.-A	Saturday	Sept. 10

COLON TO NEW YORK.

Clyde	R.-M.	Wednesday	June 29
Metapan	U. F. C.	Friday	July 1
Prinz Joachim	H.-A	Tuesday	July 5
Zacapa	U. F. C.	Friday	July 8
Atrato	R.-M.	Wednesday	July 13
Almirante	U. F. C.	Friday	July 15
Prinz Aug. Wilhelm	H.-A	Tuesday	July 19
Santa Marta	U. F. C.	Friday	July 22
Tagus	R.-M.	Wednesday	July 27
Prinz Joachim	H.-A	Tuesday	Aug. 2
Prinz Aug. Wilhelm	H.-A	Tuesday	Aug. 16
Prinz Joachim	H.-A	Tuesday	Aug. 30
Prinz Aug. Wilhelm	H.-A	Tuesday	Sept. 13
Prinz Joachim	H.-A	Tuesday	Sept. 27

NEW ORLEANS TO COLON.

Abangarez	U.F.C.	Saturday	June 25
Atenas	U.F.C.	Saturday	July 2
Turrialba	U.F.C.	Saturday	July 9
Abangarez	U.F.C.	Saturday	July 16
Atenas	U.F.C.	Saturday	July 23
Turrialba	U.F.C.	Saturday	July 30

COLON TO NEW ORLEANS.

Turrialba	U.F.C.	Thursday	June 30
Abangarez	U.F.C.	Thursday	July 7
Atenas	U.F.C.	Thursday	July 14
Turrialba	U.F.C.	Thursday	July 21
Abangarez	U.F.C.	Thursday	July 28
Atenas	U.F.C.	Thursday	Aug. 4

COLON TO BARBADOS, CALLING AT TRINIDAD.

Magdalena	R.-M.	Tuesday	July 5

The next sailing of the Leyland Line will be as follows: *Barbadian*, July 11, for New Orleans, via Kingston, Ja.

Hamburg-American steamers leave for New York at 10 a. m., and for Port Limon every Tuesday or Wednesday.

Royal Mail steamers leave for New York early in the morning and passengers should be on board the night before.

United Fruit Company ships for New Orleans leave on Thursday at 3 p. m., and for New York on Friday at 10 a. m.

Sailings of the French line (Cie. Générale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, JULY 6, 1910. No. 45.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Suction Dredge No. 86 at Work.

The new suction dredge of the Atlantic Division, *No. 86*, was set at work on Tuesday pumping into the hydraulic fill of Gatun dam. It was brought up the French canal to its present position north of the dam, without difficulty. This makes four suction dredges now at work on the hydraulic fill, *Nos. 82* and *85* being at work in the vicinity of the spillway, south of the dam, while dredge *No. 83* is working west of the spillway at the north toe.

New Sewage Pumps for Colon.

All of the sewage flowing into the underground drains in Colon has to be disposed of by pumping into a discharge pipe, owing to the slight elevation of the city above sea level. In view of the number of extensions to be made to the sewer system under the new street improvement plans, the present pumps at the sewage pumping station will be replaced with equipment of greater capacity. This will consist of two direct-connected, motor-driven centrifugal pumps, each having a 12-inch discharge and a 14-inch suction, capable of pumping 2,000 gallons of sewage a minute against a total head of 67 feet. The driving equipment will consist of two 220-volt, 25 cycle, 3-phase current motors, each of 60-horsepower capacity and able to carry a full load at a speed of 720 revolutions a minute. The pumps will discharge into a 12-inch pipe extending to and emptying temporarily into the G Street ditch. Later, the pipe-line will be laid to the bay, east of Colon. None of the Colon sewers are to be connected with the new D Street drain, now in course of construction, as this is designed solely to carry off the storm water, the south part of the city draining into that section of the sewer discharging into Folk River, and the north part into that section discharging into the bay at Colon beach.

The present equipment at the sewage pumping station, consisting of two pumps, each having a 10-inch discharge and a 10-inch suction capable of delivering 2,000 gallons of sewage a minute against a head of 10 pounds per square inch, together with motors, will be turned over to the Quartermaster's Department for use in some other division of the work.

Dispensary and Hospital at Toro Point.

The breakwater camp at Toro Point will be provided with a dispensary and hospital, both to be under one roof. The building for this purpose is to be reconstructed from a labor barrack at Camp Bierd, Cristobal, and will be one story, 68 feet long by 36 feet wide, entirely surrounded by a veranda 7 feet 6 inches wide. It will contain two wards, one for white and the other for colored patients; two rooms for the nurses, dispensary, office, two store rooms, kitchen and toilet. The building will be erected by the Constructing Quartermaster's carpenter force and will be located at the end of the row of laborers' quarters, next to the quarters for gold employes.

School Garden Work.

In order that the gardens maintained in connection with the Canal Zone schools for colored children at Balboa, Culebra, Empire and Las Cascadas may be kept in proper condition during the vacation period, authority has been obtained to continue the services of the colored teacher who has had the work in charge. The result of the experiment in the line of school gardening so far has been quite satisfactory. The pupils, both boys and girls, become thoroughly interested in their various garden tasks and perform them well. The first seed was placed in the ground on January 17 of this year, and up to the present time produce to the value of nearly $350 has been raised. The scope of the work will probably be enlarged to some extent during the next school year. At Gatun, some banana and papaya plants have been set out, but it is proposed to extend the scope of the work at this point by planting additional native fruit and by growing tomatoes and other vegetables. The establishment of a school garden at Mount Hope is also being considered.

Rank of Gatun Post-Office Raised.

An assistant postmaster has been authorized for Gatun, which raises the rank of the post-office there to that of the offices at Ancon, Culebra, Empire, Gorgona and Cristobal. The business at the Gatun post-office has been steadily increasing during the past two years and at the present time it ranks third among the Canal Zone post-offices in the matter of gross receipts.

The wooden doors in the fire walls at Colon Hospital will be replaced by metal fire doors. A consignment of these doors was recently received from the States.

HALF MILLION MARK PASSED.

Concrete Yardage in the Locks at Gatun Reached That Figure on June 27.

When the concrete workers at Gatun had ceased their labors for the day on Monday, June 27, over 500,000 cubic yards had been laid in the Locks at that point since the beginning of operations on August 26, 1909. This amount represents one-fourth of the concrete estimated required to complete these Locks, and one-ninth of the concrete estimated necessary to complete all the Locks in the Canal.

It was at one time planned to start concrete laying in the Gatun Locks on January 1, 1909, and the estimate of future output prepared as of that date indicated that there should be 600,000 cubic yards in place by July 1, 1910. Through delays in installation, the entire handling plant was not ready for operation until the latter part of August, 1909, nearly eight months later, but notwithstanding, the work on July 1 was less than 87,000 cubic yards behind the original estimate. With the plant working as smoothly as it has during the past few months, it is quite possible that all the earlier estimates as to production will be exceeded by January 1, 1911.

Up to July 1, the plant had been in operation for a total of 267 days, including six Sundays. Work was carried on every day during the month of October, 1909, and a part of the plant was in operation one Sunday in March this year. Each month has shown a steady increase in output, and there has been a corresponding increase in the daily average output for each month, with one exception, that of March, when the daily average fell below that of February, caused principally by the inclusion of a Sunday on which day only a small amount of concrete was laid.

The month of June surpassed all previous records for the total, as well as average daily output, and but for lightning striking the pumping station and shutting off water supply, the June record would have exceeded 90,000 cubic yards. On two days, the total nearly reached the 4,000 cubic yard-mark; on June 6, when it fell two yards short, and again on June 30, when the mark was missed by 11 yards.

Five-eighths of the concrete in the entire upper lock at Gatun is now in place. Work has already been started on the floor and lateral culverts of the middle lock and as the floor is only three feet in thickness, it is proceeding rapidly. Concrete for the operations at that point is being supplied from the auxiliary mixer by trains of dump cars, operating on a trestle over the south head wall and thence on down the center of the upper lock into the middle lock. Steam shovel excavation in the latter lock has been concluded, and the necessary cleaning up will be accomplished by hand and locomotive crane.

The total output of concrete, the daily average, and the number of days worked, by months, from August 1909, to June 1910, inclusive, is as follows:

	Quantity.	Daily Average.	Days Worked.
1909.			
August..	1,298	185½	7
September	11,934	459	26
October	29.378	948	*31
November	30,384	1,266	24
December	43,478	1,672	26
1910.			
January	53,034	2,121	25
February	57,605	2,400	24
March	59,831	2,216	†27
April	63,036	2,424	26
May	74,162½	2,966½	25
June	89,239½	3,432	26
Totals	513,380	1,923	267

* Five Sundays worked. † One Sunday worked.

A total of 21,398 cubic yards was laid in the locks during the week ending July 2, an average of 3,566 cubic yards a day, which is the highest daily average for any week up to this time. The record by days follows:

	Cubic Yards.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
June 27	2,128	890	183	3,201
June 28	2,456	1,166	303	3,925
June 29	2,558	1,161	270	3,989
June 30	2,514	834	230	3,578
July 1	2,280	900	182	3,362
July 2	2,236	848	259	3,343
Total	14,172	5,799	1,427	21,398
Previously reported	....	....	....	498,687
Grand total	....	....	....	520,085

In addition, a total of 556 cubic yards of concrete was laid in the spillway of Gatun dam during the week.

Concrete Operations at Pedro Miguel.

The record of concrete laid in the Pedro Miguel Locks, by days, for the week ending July 2, follows:

	Cubic Yards.			
	Construction plant.	Auxiliary plant.	Large stone	Total.
June 27	1,170	146	65	1,381
June 28	796	244	....	1,040
June 29	988	184	10	1,182
June 30	1,096	192	20	1,308
July 1	1,118	288	35	1,441
July 2	906	332	36	1,274
Total	6,074	1,386	166	7.626
Previously reported	....	....	....	164,913
Grand total	....	....	....	172,539

In addition, a total of 718 cubic yards of concrete was laid in Miraflores Locks, bringing the grand total at that point to 1,783 cubic yards.

Ancon Quarry Plant Output.

A statement of rock crushed at Ancon quarry for the week ending July 2, follows:

Date.	Hours worked.	Cubic Yards.
June 27	5:00	1,296
June 28	3:55	1,164
June 29	4:30	1,152
June 30	4 20	1,308
July 1	1:55	612
July 2*	....	....
Total	19:40	5,532

*Crusher shut down, account of moving large motor.

MAKING PIPE FOR SEWERS.

Substitute for Vitrified Material Manufactured on the Isthmus.

The manufacture of pipe for use in sewers and underground drains has been entered upon by the municipal engineering forces of the Atlantic and Pacific Divisions on an extensive scale. A plant has recently been established near the Washington Hotel at Colon, where an average of twelve 30-inch lengths of pipe are turned out each working day. This pipe is made in two sizes, 20-inch and 24-inch, and will be used in the extension of the Colon sewer system. Heretofore, vitrified pipe has been employed exclusively in the building of sewers in the cities of Panama and Colon. The results so far attained from cement, or mortar pipe, show that it makes an excellent substitute, and can be produced from three-fourths to less than one-half the cost of vitrified pipe laid down on the Isthmus, thereby effecting an important saving.

The process of manufacture at the Colon plant consists of filling collapsible steel forms with mortar, composed of three parts of sand to one of cement. The material is then allowed to stand until it becomes sufficiently hardened, when the forms are carefully removed and the pipe carried into the open air to dry out. The forms are in sets of two, one fitting inside the other with the proper amount of space between for filling in, and each set rests on a flat circular steel base. In making the pipe some loss is occasioned through breakage while removing the forms, or in defective setting, amounting in the case of the 24-inch pipe to about one length in ten, and less in the smaller-sized lengths. At this proportion, however, the loss is less than generally results from a shipment of vitrified pipe to the Isthmus, when the breakage through handling is considerable.

The municipal engineering force of the Pacific Division is making all the pipe required in the construction of a 30-inch drain, which will take care of the storm water in the newly improved districts of Santa Cruz and Guachapali, the sewer ending in the swamp, near the district of Trujillo. Instead of manufacturing the pipe at a certain spot, the steel forms and mixing platform are moved from place to place along the line of the ditch, and with the aid of a tripod, a chain block and a gooseneck hook, the joints when completed, are laid in horizontal position as close as possible end to end. Eight steel forms are employed and six lengths of pipe constitute the usual day's output. In addition to sand and cement, rock screening from the Ancon quarry plant is used, the formula for manufacture being four parts screening to two of sand to one of cement. Each joint is 36 inches long and weighs about 1,000 pounds.

The Central Division has maintained a small plant at Empire for the past three years, and it was there that the first mortar pipe on the Isthmus was manufactured. This pipe has been largely used in the construction of culverts and drains for Canal Zone roads. Some of it has been in for several years and is in as good a condition as when first installed.

The telegraph and telephone department of the Panama railroad has been provided with a new three-passenger motor velocipede for operating over the line. It was manufactured by the Buda Manufacturing Company, and is equipped with a 4-horsepower air-cooled single cylinder motor.

Porto Bello Crusher Operations.

A statement of the work done at Porto Bello crusher, by days, for the week ending July 2, follows:

Date.	Hours worked.	Cubic Yards.
June 27	13:40	3,553
June 28	14:50	3,275
June 29	13:20	3,366
June 30	14:05	3,531
July 1	10:55	2,295
July 2	14:45	3,113
Total	81:35	19,133

Quarantine Against Costa Rica.

A wireless message received from Limon, Costa Rica, on Wednesday, June 29, advised the local quarantine authorities of the existence of yellow fever in that republic. Two cases were reported, one, a German, who arrived at Limon on the steamer *Niederwald* on May 27, and who is believed to have caught the disease at Barranquilla, Colombia, an infected port, where the ship stopped en route to the Isthmus and Costa Rica. The second case was that of a native and developed near Siquirres, a small place in the coast belt about 28 miles from Limon. The German was removed to a hospital in San José, but the native died.

Immediately upon receipt of the information, a quarantine against Limon on the Atlantic coast and Punta Arenas on the Pacific coast became effective, and no one embarking at either place for Colon, Bocas del Toro, or Balboa will be permitted to land without first completing a six-day period under surveillance.

Passengers embarking at Limon for Colon travel either via the United Fruit Company's line and Bocas del Toro, where they transship, or direct by the Hamburg-American, Spanish or Italian lines. At Bocas del Toro, there is a physician in the pay of the Commission, and while the quarantine is on all passengers from Costa Rica to that point will be detained for the necessary period, while passengers destined for Colon traveling via Bocas del Toro, but not landing there, will be kept under surveillance in Colon. Since the discovery of the first two cases, four other suspected cases have been removed to Limon, two with well developed symptoms of yellow fever.

The Chairman and Chief Engineer has approved the recommendation of the Acting Chief Sanitary Officer that Costa Rica be removed from the approved sections where Commission employes may spend their vacations.

Kangaroo Dance.

The Kangaroos held their monthly dance at the Cristobal clubhouse on Saturday evening, June 25. The next dance will be held on July 23.

Married.

HOFFMAN-BLISS—At Pedro Miguel on June 30, 1910, at the home of Mr. and Mrs. J. A. Walker, Gertrude L. Bliss of Sherman, N. Y., to Carl P. Hoffman of Dansville, N. Y., the Ven. Archdeacon Bryan officiating. Canal Zone residence, Ancon.

LOUGHERY-MAINWEARING—At the Methodist Episcopal Church in Panama on June 30, 1910, Josephine M. Mainwearing to George J. Loughery, Rev. William Walker Gray officiating. Canal Zone residence, Gorgona.

WORLD'S FAIR IN 1915.

Claims of San Francisco and New Orleans Presented to Congress.

The cities of San Francisco, Cal., and New Orleans, La., are rival claimants for the World's Fair in 1915 to commemorate the opening of the Canal, and both places have solicited Government recognition of the enterprise. Two resolutions were introduced in the House at the recent session of Congress, one, House Joint Resolution No. 213, authorizing the President to invite foreign countries to participate in the Panama-Pacific International Exposition in 1915 at San Francisco "whenever it shall be shown to the satisfaction of the President of the United States that a suitable site has been selected, and that there is an actual bona fide subscription in the sum of not less than five millon dollars," and the second, House Joint Resolution No. 218, couched in similar language for a World's Panama Exposition in 1915 at New Orleans. The resolutions were referred to the Committee on Foreign Affairs, and on June 16 were reported with an amendment increasing the amount to be made available from five million dollars to seven million five hundred thousand dollars, the resolutions, as amended, reading as follows:

JOINT RESOLUTION Authorizing the President to invite foreign countries to participate in the Panama-Pacific International Exposition in nineteen hundred and fifteen, at San Francisco, California.

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That whenever it shall be shown to the satisfaction of the President of the United States that a suitable site has been selected, and that the sum of not less than seven million five hundred thousand dollars will be available from the citizens of San Francisco and the State of California combined to enable the Panama-Pacific International Exposition Company, a corporation organized and existing under and by virtue of the laws of the State of California, for the purpose of inaugurating, carrying forward, and holding an exposition at the city and county of San Francisco, California, on or about the first day of January, nineteen hundred and fifteen, to celebrate the completion and opening of the Panama Canal, and also the four hundredth anniversary of the discovery of the Pacific Ocean, the President of the United States be, and he hereby is, authorized and respectfully requested, by proclamation or in such manner as he may deem proper, to invite all foreign countries and nations to such proposed exposition, with a request that they participate therein.

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JOINT RESOLUTION Authorizing the President to invite foreign countries to participate in the World's Panama Exposition in nineteen hundred and fifteen, at New Orleans, Louisiana.

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That whenever it shall be shown to the satisfaction of the President of the United States that a suitable site has been selected, and that the sum of not less than seven million five hundred thousand dollars will be available from the citizens of New Orleans and the State of Louisiana combined in aid of said World's Panama Exposition for the purpose of inaugurating, carrying forward, and holding an exposition at the city of New Orleans, Louisiana, on or about the first day of January, nineteen hundred and fifteen, to celebrate the completion and opening of the Panama Canal, the President of the United States be, and he hereby is, authorized and respectfully requested, by proclamation or in such manner as he may deem proper, to invite all foreign countries and nations to such proposed exposition, with a request that they participate therein.

With these amendments, the committee recommended the passage of the joint resolutions.

On June 18, Senate Joint Resolution No. 114 was introduced in the Senate authorizing the President to invite foreign countries to participate in the Panama-Pacific International Exposition in 1915 at San Francisco. This resolution was worded identically with amended House Joint Resolution No. 213, and was referred to the Select Committee on Industrial Expositions. Congress adjourned without action and the resolutions, will probably be brought up again at the December session.

Steamship Allianca Delayed.

The Panama railroad steamship *Allianca* left New York at 3 p. m., on Thursday, June 30, but put back before it was well out to sea on account of the discovery of a supposed case of scarlet fever on board. The case was later diagnosed as measles and the vessel sailed again at 7 a. m., Friday, July 1. It will be due at Cristobal on or about Thursday, July 7.

Quarantine Barrack Struck by Whirlwind.

A miniature whirlwind, cloud-shaped like the waterspouts that are quite frequently seen in Limon Bay, struck the barrack for steerage passengers at the Colon quarantine station on Colon beach about 10.45 o'clock Thursday night, badly wrecking the upper part of the building. The storm was accompanied by only a small amount of rain, and its path was barely more than 40 feet in width. The second floor of the barrack was fortunately unoccupied, but there were 48 people on the lower floor, most of whom were asleep. One of the inmates who was sitting on the front veranda at the time states that the whirlwind apparently formed at the edge of the beach only a few yards away. It struck the house with a rushing noise and was over in an instant. The wind forced the entire front wall of the second story inward and the rear wall outward, leaving both walls standing at an angle of about 60 degrees. A section of the roof, consisting of about 20 sheets of galvanized iron, including the frame work, was torn off and deposited in the road back of the barrack, a distance of over 200 yards. Single sheets of iron were scattered over a small territory, and a shack standing directly in the rear of the building was leveled. The standee berths on the upper floor were wrenched loose from their fastenings and remained tilted at various angles. The two-story barrack, where the first class passengers are housed and the officer in charge lives, located only a few steps east of the damaged building, and the wireless station situated a short distance west, did not feel the blow. The inmates on the lower floor were considerably scared, but no one was hurt. In view of the dangerous condition of the upper story, the entire building was ordered abandoned and the people were cared for temporarily in tents.

Record Tows in Atlantic Division.

The record tow in the Atlantic Division was made by the tug *Reliance* on May 22, 1910, when it left Nombre de Dios at 1.30 p. m., with barges Nos. 3 and 9, loaded with sand, containing approximately 1,200 cubic yards, and coal scow 114 empty, arriving at Porto Bello at 7.30 p. m., where it added barges Nos. 10 and 11, loaded with crushed rock, containing approximately 1,300 cubic yards, to the tow, arriving at Cristobal at 12.45 a. m., May 23. The time elapsed was 11 hours and 15 minutes, including stop at Porto Bello, heaving in barges, and docking same at Cristobal.

On May 13, the tug *Mariner* left Porto Bello at 5.05 a. m., with barges Nos. 1, 2 and 9, loaded with crushed rock, containing approximately 1,950 cubic yards, and barge No. 3, containing about 300 cubic yards of large rock. The tug did not stop at Cristobal, but proceeded up the old French canal with the tow, dropping barge No. 3 at the Mindi Dock and placing Nos. 1, 2 and 9 at the Cableway at 1.15 p.m. The time elapsed was 8 hours and 10 minutes.

PERSONAL.

Maj. J. P. Jervey, accompanied by Mrs. Jervey and their three children, returned on the *Panama*, on June 30, from his annual leave of absence in the States.

Judge Thomas E. Brown, Jr., accompanied by Mrs. Brown, arrived at Cristobal on June 30 on the *Panama*, from a vacation in the States.

Mr. R. S. Reynolds Hitt, the American Minister to Panama, has been appointed Envoy Extraordinary and Minister Plenipotentiary of the United States to Venezuela, vice Mr. William W. Russell, and expects to leave to assume the duties of his new post about July 15. Mr. Thomas. C. Dawson of Iowa, until recently resident diplomatic officer and Chief of the Division of Latin-American affairs, Department of State, Washington, D. C., has been appointed American Minister to Panama.

Sand Distribution at Balboa for June.

A total of 33,340½ cubic yards of sand was loaded and shipped from the Balboa sand dock during the month of June, a slight decrease as compared with the May total. The distribution is shown in the following table:

DESTINATION.	No. of Cars.	Cu. Yds.
Atlantic Division	943	14,844
Pacific Division	1,464	17,574
Central Division	35	420
Panama railroad	1	25
Miscellaneous	23	477½
Total	2,466	33,340½

The ladder dredge *Gopher* assigned to the sand dredging operations at Point Chamé, was at the shipways for a few days in June for some minor repairs and a general cleaning. The *Mole* was engaged in the Point Chamé work during the time the *Gopher* was idle.

Knights of Pythias Election and Installation.

Lock City Lodge, No. 5, Knights of Pythias of Gatun has elected officers for the ensuing six months, as follows: Chancellor Commander, V. M. Claybourn; Vice-Chancellor, J. H. Stevenson; Prelate, B. B. Gibbs; Master of Work, George H. Furbish; Keeper of Records and Seals and Master of Finance, R. M. Roudabush; Master of Exchequer, J. I. Porter; Master at Arms, W. E. Carrigan; Inner Guard, F. A. Shepard; Outer Guard, H. A. Porter. A double installation of officers of Lock City Lodge, No. 5, Gatun, and Panama Lodge, No. 1, Cristobal took place at Cristobal Castle Hall on Saturday evening, July 2, District Deputy Supreme Chancellor A. M. Warner directing the ceremonies. A special train was run from Gatun for the occasion. Refreshments were served by Cristobal Lodge.

Colon Beach Dispensary Temporarily Closed.

The Beach dispensary at Colon will be closed for a period of six weeks beginning July 7, 1910.

JOHN L. PHILLIPS,
Acting Chief Sanitary Officer.

Ancon, C. Z., July 2, 1910.

ISTHMIAN IMMIGRATION.

Increase in Independent Movement of European and West Indian Laborers.

The immigration figures at the port of Colon for the past six months show that not only does the independent immigration movement on the part of the European and West Indian laborers continue, but that the volume in the case of the European laborers has increased nearly 1,000 per cent, and in the case of the West Indians, over 50 per cent, as compared with the first six months of 1909.

Nearly every vessel sailing from a foreign port brings an additional lot of laborers, and within the past few months immigration among the Greeks and Italians has been steadily increasing. As near as can be estimated, about 50 per cent of the steerage passengers from Europe at the present time are Spaniards, while the remaining 50 per cent is more or less equally divided between Greeks and Italians. The Spanish immigrants constituted about all the European labor movement to the Isthmus up to about a year ago.

The record of immigration at the port of Colon, kept by the quarantine service, shows the total number of cabin and steerage passengers arriving from European ports, and those arriving from the islands of the West Indies, collectively. The immigrants arriving on the Isthmus from the neighboring Latin-American countries, such as Colombia, Venezuela, Costa Rica and Cuba, are, however, shown separately. Up to the latter part of 1909, immigration and travel from Venezuela to the Isthmus was practically shut off owing to the health conditions in that country. There has been bubonic plague in Venezuela for over two years, and while cabin passengers have not been refused entry at the port of Colon, some of the steamship companies were afraid to accept them, because they might get sick en route to the Isthmus, thereby entailing disinfection and delay of the vessel. Upon the appointment of a representative of the United States Public Health and Marine Hospital Service at La Guayra, the principal port of Venezuela, the embargo was lifted and some travel set in as a consequence. Venezuela however, contributes very few laborers to the Canal working force, while a steady although comparatively small immigration of the steerage class occurs from Cuba, Colombia and Costa Rica, and quite a number of laborers from these countries are found on the Commission pay rolls.

The bulk of the European labor movement comes to the Isthmus through the ports of Genoa, Italy, Santander, Spain, Marseilles and Bordeaux, France. During the past year the Spanish government has refused to allow steamship agents in Spain to sell steerage tickets to Colon, as the country was being drained of its best laborers, so many of the latter buy tickets to Limon on the French Line and disembark here instead of going to their destination. The price of the ticket is about the same. Some go to the French ports and buy tickets for Colon; some go to Cuba and reembark for Colon the first opportunity. Others go to Limon and come here after a few days, and a few go direct from Europe to Jamaica and reembark for Colon. Under the immigration laws of the Republic of Panama, adult immigrants (excepting contract laborers for the Commission) cannot land unless they are provided with the equivalent of $15 United States currency. The greater part of them are so provided.

Formerly the stowaway class constituted quite a factor in the immigration movement, and there is a case on record where one vessel arrived at Colon with 288 stowaways on board, including a number of women. At that time laborers were in demand on the Canal works, and under the agreement with the Republic of Panama respecting the importation of labor, the stowaways were allowed to land without the requisite amount of cash, and a large number of them went to work on the Canal. For some time past, however, stowaways have been returned to the countries from which they embarked, which has discouraged the practice to a great extent and caused steamship officials to be more alert. Stowaways have been especially numerous from the island of Barbados, stealing on deck unseen, or going aboard on some fictitious errand and hiding themselves as the opportunity offered while the vessel lay at anchor taking on cargo.

With the present surplusage of European labor on the Isthmus, the Commission has been compelled to hold to the rule of filling vacancies in the labor ranks from the contract men, whenever contract men are without work. Noncontract European laborers are now only employed when the vacancies cannot be filled from the ranks of the contract men. In the case of a European contract laborer giving up his job, leaving the Isthmus and then later returning and applying for work, he is generally reemployed providing a vacancy exists and his previous period of service has been satisfactory, although in adhering to this custom, the Commission is filling no obligation whatever on its part. Many noncontract European laborers are coming to the Isthmus possessed of the belief that it is incumbent upon the Canal Commission to give them work. Places for these surplus laborers have been found in most instances, and with the augmentation of work in various sections of the Canal territory after July 1, the services of these additional men will probably be utilized. A certain percentage of the immigrants find employment in the trades and upon public works in the cities of Panama and Colon, but the greater proportion seek and expect to find work along the line of the Canal.

The increased immigration on the part of European and West Indian laborers is in a large measure due to the reports of conditions sent back by the men employed. Free medical attention, good food, and a compensatory rate of wage have had an important bearing on the labor influx. Local conditions in the countries from which the immigrants come some times plays a part in the movement. The Riff war in Morocco, the unsettled state of affairs in Nicaragua, and the recent earthquake in Cost Rica have their reflex in the immigration statistics.

No recruiting of labor by the Commission has been done for several months, and it is not likely that this method of procuring workers will again be necessary during the construction of the Canal. The last contract men to arrive at Colon was a lot of 205 from Trinidad in January of the present year.

It is estimated that about 90 per cent of the steerage passengers landing on the Isthmus come here seeking work. There are comparatively few steerage passengers on vessels sailing from United States ports, and the record of the arrivals of this class at Colon for the first six months of 1910 shows a decided falling off as compared with the same period of 1909. The labor-seeking immigrants from Europe and the West Indies almost all travel steerage, the immigrants from Europe in the regular line steamships, while many of the West Indians reach the Isthmus on sailing vessels like the *John Blackwood*, the *Viola*, the *Osprey* and the *Hornet*.

It is further estimated that about 99 per cent of the steerage passengers from Cuba are Spaniards, and fully 90 per cent of the steerage passengers from Costa Rica are West Indians, or Spaniards.

The following table shows in detail the extent of the independent labor movement to the Isthmus during the past six months, as compared with the first six months of 1909. The number of cabin arrivals is also shown, although they do not enter into the labor immigration movement to any appreciable degree:

	January.		February.		March.		April.		May.		June.		Recapitulation.	
	Cabin.	Steerage.	Cabin.	Steerage.	Cabin.	Steerage.	Cabin.	Steerage.	Cabin.	Steerage.	Cabin.	Steerage.	Cabin.	Steerage.
1909.														
Europe	30	12	38	23	25	68	30	54	68	57	6	59	197	273
United States	657	36	508	22	444	37	611	29	599	10	887	65	4,420	202
West Indies	133	501	186	590	257	808	182	*801	156	1,645	87	964	1,001	5,314
Colombia	32	95	31	38	57	159	38	57	48	106	46	61	252	516
Cuba	15	12	17	24	11	21	20	47	8	57	4	33	75	189
Costa Rica	65	55	51	91	83	213	97	109	77	84	162	126	535	588
Guatemala	11	3	6	1	9	5	......	....	......	......	......	......	26	9
Totals	943	714	837	789	886	1,311	978	1,097	956	1,959	1,192	1,303	6,506	7,091
1910.														
Europe	22	166	16	313	20	538	34	599	27	463	37	149	156	2,228
United States	714	3	485	......	629	12	624	11	624	11	977	21	3,439	58
West Indies	167	†1,015	163	1,310	180	1,535	211	1,513	147	1,553	111	1,143	979	8,069
Venezuela	27	......	21	......	10	......	18	....	13	......	18	......	107	....
Colombia	48	52	25	82	50	115	31	98	37	87	50	110	241	544
Cuba	15	71	7	23	8	90	5	95	2	23	9	9	46	311
Costa Rica	108	83	88	67	127	136	197	90	117	129	71	196	708	701
Nicaragua	......	......	......	......	20	......	20	....	......	......	......	......	40	....
Totals	1,101	1,390	805	1,795	1,044	2,426	1,140	2,406	967	2,266	1,273	1,628	5,716	11,911

*Does not include 761 contract laborers from Trinidad.

†Does not include 205 contract laborers from Barbados.

MOUNT HOPE CEMETERY.

Many Improvements Made to the Cristobal-Colon Burial Grounds.

The improvements made to Mount Hope Cemetery in the past two years have greatly changed its appearance. The work is still going on and the present policy is to expand it as far as possible. The reservation now consists of about 42 acres of ground extending in an easterly direction from the Panama railroad at Mount Hope. Its physical characteristics comprise principally two low hills separated by a ravine, or small valley, and the entire area is cleared of all undesirable herbage and covered with a fine grass sward.

The old section, known in French canal times as Monkey Hill, covers about one-third of the present area of the cemetery. It is dotted everywhere with graves, and its use as a burial site has been discontinued. The work of beautifying this section, however, is carried on unremittingly by the planting of trees along the graveled roadways and the laying out of beds of plants and flowers.

The new burial ground is located along the ridge across the ravine, and is divided into various sections, including three private plots. All white persons are interred on the ridge near the south end of the cemetery, and in this section is the plot allotted to the Improved Order of Red Men, which occupies a level site on top of the hill. All Red Men and members of their families who are buried on the Isthmus, are interred here. The order is now erecting on its plot a monument consisting of a 17-foot reinforced concrete pedestal supporting a bronze statue of an Indian warrior, 10½ feet in height, emblematic of the organization. The pedestal has been completed, and the statue is expected shortly.

To the north of the white section is the colored burial ground, which has also been greatly improved. Near here is the Hebrew plot enclosed by a masonry wall 25 years old. The section for negroes maintained by the Amalgamated Societies of Colon; the Hebrew and Red Men's plots are all taken care of by the sanitary authorities on payment of a charge of $5 per month. In this part of the grounds are also the Spanish and Chinese sections. It is customary for the cemetery officer to inter members of the Latin-American races in the white burial ground, when the order of the Health Officer so indicates. The orders usually bear the words "white" or "colored," but it sometimes occurs that the order does not specify the color, in which case the person is buried according to the country of his nativity, that is, if born in Latin-America, he is interred in the Spanish section. All burials in the Chinese section, as has heretofore been stated in THE CANAL RECORD, are temporary, as the Chinese Red Cross Association makes a practice of removing the bodies for reinterment in China.

The cemetery grounds are under the care of the Sanitary Inspector at Mount Hope, who performs the duties of sexton, and all improvements now in progress are made by a force under him. A system of masonry drains is being installed, which will carry off the surplus water and keep the grounds in good condition during the rainy season. The largest of these drains, not yet completed, extends through the small valley and will carry off the water from most of the cemetery watershed. A large number of new plants are constantly being set out, some of them novel to this region, and a requisition was recently forwarded to the States for a good variety of flower seeds. To illustrate the diversity, the side of one roadway has been planted with rows of "alligator" pear trees and royal palms alternately; another, with rows of mango trees and cocoanut palms alternately, and so on. Many other tropical fruit trees have been set out, including the tamarind, mamei, lime, bread fruit, granadilla, three varieties of papaya, etc. Crotons and the hibiscus flourish. Rose apple trees from Jamaica, their fruit noted for its pungent odor, have been planted, and hydrangeas, rose bushes, and the melo, the latter an importation from the Southern States, are growing well. Even grape vines have been started, but they do not grow as well as the other horticultural or botanical specimens. Some of the trees were set out, others were raised from the seed, and nearly all have just commenced their growth.

An office for the Sanitary Inspector has been erected just outside the cemetery gate. It is 10 by 12 feet in size, one story high, of concrete construction, with a floor of the same material. Heretofore, an old building nearby the property of the Panama railroad has been utilized for the purpose. This will be torn down, giving an unobstructed view of the part of the cemetery next to the railroad.

LABOR FORCE AND QUARTERS IN MAY.

The combined Canal and Panama railroad force on May 31 was 36,796, of which 29,560 were employes of the Isthmian Canal Commission. The force report shows a slight decrease from the preceding month, and a considerable decrease from the force at work in March. The force on the Panama railroad relocation was reduced by 20 per cent during May. The movement of independent Spaniards continues, and there was an adequate supply of labor throughout the month.

The report of the Chief Quartermaster for May shows that the number of family quarters occupied by "gold" employes was 1,700, which is 25 more than in April, and the occupants numbered 5,101, a decrease of 10. Of this number, 1,746 were women, and 1,651, children. Bachelor quarters occupied by "gold" employes numbered 1,957 and the occupants numbered 3,670, of whom 136 were women. The family quarters, occupied by European laborers numbered 313, and the occupants, 901; bachelor quarters, 132, and the number of occupants, 6,113. The family quarters occupied by West Indians numbered 1,064, and the occupants, 3,495; bachelor quarters, 258, and the number of occupants, 4,679.

The following statement shows the Canal force actually at work on May 31:

DEPARTMENT.	Monthly.	Artisans.					European Laborers.		West Indian Laborers.					Total Silver.	Total Gold.	Grand Total.
		44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 cents.			
Const'ct'n and Eng'r'ng.	4,083	17	35	299	734	2,460	3,424	1,872	121	486	3,007	3,742	277	20,557	3,249	23,806
Civil Administration....	182	..	..	2	3	18	......	......	...	.....	......	2	....	207	336	543
Sanitation..............	668	..	..	3	2	5	4	......	...	2	2	314	5	1,005	383	1,388
Quartermaster's.........	1,062	4	2	56	173	189	241	64	20	.....	40	947	....	2,798	235	3,033
Subsistence.............	609	..	..	1	1	......	......	......	...	.....	......	......	....	611	57	668
Disbursements...........	8	..	..	....	.....	......	......	......	...	.....	......	......	....	8	20	28
Examinat'n of Accounts.	6	..	..	....	.....	......	......	......	...	.....	......	......	....	6	88	94
Totals...............	6,618	21	37	361	913	2,672	3,669	1,936	141	488	3,049	5,005	282	25,192	4,368	29,560

Panama railroad force, 3,845; Panama railroad relocation force, 2,434; Panama railroad commissary force, 957 Total, 7,236.

Order of Isthmian Conductors.

A regular meeting of the Order of Isthmian Conductors will be held in the Paraiso lodge hall, Sunday afternoon, July 10, at 1.30 o'clock. Election of officers.

F. H. ANDERSON,
Secretary and Treasurer.

Pedro Miguel, C. Z., July 3, 1910.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Hotel Tivoli, on Sunday, July 10, 1910, at 7.30 p. m. The program follows:

1 March—*The Midshipman*............Laurendeau
2 Selection—*A Trip to Japan*..................Klein
3 Waltz—*Sobre Las Olas* (By request)..........Rosas
4 *Moonlight in Dixie*.........................Clement
5 Medley Selection—*Popular Songs*.......La Farge
6 Bolero—*Isolina*.............................Labory
7 Overture—*Lustspiel*.....................Keler Bela
8 { *a Wild Cherries*..........................Snyder
{ *b Paddy Whack*...........................Lampe
9 Intermezzo—*Flower Girl*................Wenrich
10 March—*Standard Bearer*................Fuhrbach

Oliver Kimball, *Acting Musical Director.*

A concert will be given at Gorgona, on Sunday, July 17.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, July 2, 1910.

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Lake.)
Height of low water above sea-level, ft..	125	92	46	0	0
Maximum height ab. mean sea-level, feet:					
Sunday, June 26....	127.8	94.6	48.0	16.4	16.2
Monday, June 27...	127.5	94.1	47.8	16.3	15.9
Tuesday, June 28...	128.4	94.8	48.7	16.0	15.7
Wed'esday, June 29	137.4	100.7	55.9	19.1	16.3
Thursday, June 30..	128.8	95.6	51.1	19.1	16.8
Friday, July 1......	128.2	94.6	49.0	17.2	16.9
Saturday, July 2....	130.7	96.4	50.6	17.3	16.9

Launch Service to Taboga.

The steamer *Sanidad* leaves the dredge landing at Balboa at 9 o'clock Tuesday, Thursday and Saturday mornings. On the return trip it arrives at Balboa about 4.30 p. m. in time to make connections for the 5.30 train at Panama.

The arrivals and departures of vessels at the port of Balboa for the week ending July 2, were as follows:

Arrivals—June 26, *San Juan*, from San Francisco; June 27, *Limari*, from south ports; June 30, *Chatham*, from Puget Sound; June 30, *Ecuador*, from Guayaquil.

Departures—June 25, *Huallaga*, for south ports; June 25, *Arica*, for Guayaquil; June 28, *Acapulco*, for San Francisco; *Palena*, for south ports; June 29, *Chiriqui*, for intermediate ports.

THE CANAL ZONE FOURTH.

Rain Fell But the Programs Were Carried Out—The Prize Winners.

Rain interfered with the celebrations at Ancon and Cristobal on the Fourth, but the programs were carried out in their entirety, with the exception of a few events in which there were no entries. The weather was rainy and threatening most of the day at Ancon, but the storm clouds cleared away just before the fireworks in the evening, the pyrotechnic display attracting a large crowd to the Hotel Tivoli. At Cristobal, the day was pleasant until about 3 p. m., when a downpour occurred driving the crowd to seek shelter and causing a short delay in carrying out the field and track events. Another heavy shower came up toward the close of the fireworks display. Owing to rain the night before, the athletic events were transferred from the Colon park to Roosevelt Avenue, Cristobal, along which ropes were extended to keep back the crowd. The illuminated boat parade in the bay in front of Cristobal beach was a pleasing spectacle, although the electrical decorations of the tugs and clapets, which made last year's boat parade especially notable, were missed. The U. S. marine band furnished music at Ancon, and the I. C. C. band, at Cristobal. The festivities closed with well attended dances at Hotel Tivoli, Ancon, and the Lincoln House, Cristobal.

The results in the various events are as follows:

Ancon.

TRACK EVENTS.

100-yard dash—J. K. Munroe, Ancon, first; F. E. Goree, Gorgona, second; G. C. Hertz, Culebra, third. Time, 11 2-5 seconds.

220-yard dash—J. K. Munroe, Ancon, first; C. O. Herring, Gorgona, second; H. Bartholomew, Empire, third.

440-yard run—H. K. Allard, Ancon, first; F. E. Goree, Gorgona, second, F. A. Feld, Ancon, third. Time, 1 minute flat.

880-yard run—H. K. Allard, Ancon, first; S. C. Russell, Ancon, second; W. L. Kenealy, Ancon, third.

One mile run—R. A. Koperski, Culebra, first; H. K. Allard, Ancon, second; S. C. Russell, Ancon, third. Time, 5 minutes 43 seconds.

75-yard dash for boys—Ed Roberts, Ancon, first; Frank McGeachy, Ancon, second, Lawdell Deer, Ancon, third.

One-half mile relay for boys—McGeachy, Roberts Alberto and Stewart, Ancon, first; Deer, Dannis, Perrott and Schuber, Ancon, second.

One mile relay—Kenealy, Russell, Feld and Tannehill, Ancon, first.

FIELD EVENTS.

Pole vault—G. C. Hertz, Culebra, first; J. T. Luttrell, Empire, second. Height, 9 feet 6 inches.

Shot put—C. O. Herring, Gorgona, first; J. T. Luttrell, Empire, second; J. W. Tannehill, Ancon, third. Distance, 37 feet 1½ inches.

Running high jump—G. C. Hertz, Culebra, first; B. C. Culbertson, Gorgona, second; F. A. Feld, Ancon, third. Height, 5 feet flat.

Running broad jump—G. C. Hertz, Culebra, first; C. O. Herring, Gorgona, second; F. A. Feld, Ancon, third. Distance, 20 feet 1½ inches.

TENNIS TOURNAMENT.

First set, 7—5; second set, 8—6, doubles, won by Chase Pulsifer and B. C. Poole. The singles could not be played on account of continued rains. The doubles were played in the morning on the Ancon Hospital cement courts.

FIRE DEPARTMENT EVENTS.

The contest between the volunteer fire companies did not take place as there were no entries. The Ancon paid companies gave an exhibition run and demonstration of the Pompier ladder and life-saving work.

MISCELLANEOUS EVENTS.

Sack race—Jas. P. Taylor, Empire, first; J. W. Tannehill, Ancon, second; Private Beese, Camp Elliott, third.

Pony race—(First race)—Owen Griffin, Ancon, first; Belle Owens, Corozal, second.

Pony race—(Second race)—H. E. Griffin, Corozal, first; Frank McGeachy, Ancon, second.

Shoe race—J. K. Munroe, Ancon, first; Ed Roberts, Ancon, second; Frank McGeachy, Ancon, third.

Equipment race—C. W. Moore, Camp Elliott, first; J. C. Callahan, Camp Elliott, second; W. F. Stack, Camp Elliott, third.

Obstacle race—J. W. Tannehill, Ancon, first; S. C. Russell, Ancon, second; J. K. Munroe, Ancon, third.

Wall scaling contest—Camp Elliott squad in charge of Corporal P. L. Burns, first; Camp Elliott squad in charge of Corporal W. J. Fredinch, second.

Baseball throw for distance—J. T. Luttrell, Empire, first; S. C. Russell, Ancon, second.

Circling bases for time—J. W. Tannehill and F. A. Feld, tie, 17 1-5 seconds; J. K. Munroe, third.

The greased pole and tug-of-war contests were omitted on account of insufficient entries.

Cristobal.

AQUATIC EVENTS.

Sail boat race, triangular course. Won by sail boat from U. S. *Caribbean* (only starter).

U. S. Navy steam cutter race, triangular course in Limon Bay. Won by launch *Mary S.* The launch *Ruth* broke down.

Aquatic boxing contest. The entries did not apappear.

Life boat race. Won by crew or the U. S. *Caribbean*. Crew of tug *Gatun*, second; boat entered by Q. M. D., (Dock 14) third.

Tugboat race. Straightaway course in Limon Bay. Won by tug *De Lesseps*.

Dory race. Cristobal Point to dock No. 14 and return. First prize won by crew of barge No. 3; second prize won by crew of barge No. 13; third prize won by crew of barge No. 7.

Class 1, gasoline boat race. Straightaway course in Limon Bay. Won by Q. M. D. launch.

Clapet race. Won by U. S. clapet *No. 2*.

Relay swimming race. Won by Porto Bello team consisting of Messrs. J. E. Carpenter, Harry Cooling, Charles O. Weller, and Mr Lynch.

Class 2, gasoline boat race. Won by launch *Rob*; launch *Toro Point* second.

Swimming race. First prize won by Harry Cooling; second prize won by J. E. Carpenter.

Fancy diving contest. Won by Harry Cooling.

Greased spar. Prize won by George Nunes.

Boat parade, illuminated. Won by launch *Manzanillo*.

Best decorated boat. Prize won by tug *Reliance*.

FIRE DEPARTMENT EVENTS.

Bugle calls at 5 a. m. by Colon Fire Department in Cristobal.

Hose races between volunteer fire companies at 9.30 a. m., consisting of a hub to hub race of 150 yards to hydrant with reel, laying 150 feet of hose, breaking coupling on last section, putting on nozzle and turning on water. Winners—Pedro Miguel volunteer company, first prize, $75; Balboa volunteeer company, second prize, $50; Tabernilla volunteer company, third prize, $25. Time, 41 1-5 seconds.

Coupling contest between individual members of volunteer fire companies, at 10 a. m., consisting of running 50 feet, breaking coupling and putting on nozzle. Winners—Gatun volunteer company No. 3, first prize, $7.50; Balboa volunteer company, second prize, $5. Time, 10 1-10 seconds.

Contest between volunteer fire companies at 11.15 a. m., consisting of taking out middle section of a charged line of 150 feet of hose with nozzle attached, without shutting down hydrant, and connecting the first and third sections. Winners—Gatun volunteer company No 3, first prize, $7.50; Balboa volunteer company, second prize, $5. Time, 24 1-5 seconds.

Judges of contests between volunteer companies—Major G. M. Hoffman, Mr. W. E. Stoney and Mr. Harry Gribbons. Timers—Mr. J. C. Kerr and Mr. William Fox.

Exhibition by Colon Fire Department at 12.30 p. m., with automobile engine and hose companies on Roosevelt Avenue, Cristobal.

Exhibition by Cristobal Fire Department at 5.30 p. m., with fire engine and hose companies on Roosevelt Avenue.

Pompier ladder and life saving exhibition at 6 p. m., at Cristobal fire station tower.

TRACK AND FIELD EVENTS.

The results in the track and field events were not reported in time for publication in this week's issue of THE CANAL RECORD.

Fourth Observed by the Republic of Panama.

The American national holiday was observed as a civic holiday in the Republic of Panama, by official order, for the second time. Flags were displayed on the government buildings and the foreign legations, while the principal stores in the cities of Panama and Colon were decorated. In the evening, a complimentary concert was given by the National Republican Band at Cathedral Park.

Patriotic Services at the Churches.

Independence Day was commemorated by services of a special character in the Commission chapel, Culebra, on Sunday, July 3. The regular service in the morning was held by Chaplain Brown, and in the evening by Rev. A. A. Nellis, appropriate addresses being made on each occasion. The Sunday school marked the day by the promotion of three classes following the half-yearly examination and the national holiday was observed by special music.

The morning service at St. Luke's Church, Ancon, was concluded with the singing of "America" by the choir and congregation.

On the morning of July 4, there was a service of thanksgiving at St. Paul's Church, Panama, for the recovery from recent illness of the rector, Rev. A. C. Peck. The service was conducted by Rev. Edward C. Cooper, rector of Christ Church, Colon. Rev. Henry B. Bryan, Archdeacon of Panama, was present.

Special services were also held at the Commission chapel in Cristobal on Sunday, July 3. In the evening, there was a sermon suitable to the national holiday, and the sessions at the Sunday school were marked by the singing of national hymns and songs.

Past Celebrations.

The first celebration of the Fourth of July in the Canal Zone after the American occupation was held in 1905, although the few Americans who were on the Isthmus on July 4, 1904, celebrated that year individually or in groups, with much firecracker noise. In 1905, programs were carried out at Corozal and Cristobal, special trains being run hourly from Panama to Corozal. The Corozal events took place in the vicinity of the hotel, which had then but recently been completed, and included impromptu horse racing, a baseball game, and a patriotic address by Judge Gudger. At Cristobal, the exercises took place in front of the old De Lesseps houses, now Buildings Nos 1 and 2, on the Point, and included an address by Judge Magoon, then Governor. Since that time, celebrations have been held each year; in 1906 at Cristobal; in 1907, 1908 and 1909 at both Ancon and Cristobal.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., July 6, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Botas, Tomas
Bradley, Wm. R.
Burns, B. H.
Connolly, Edward
David, Joseph
Dickson, Major T. C.
Foth, B. G.
Fulton, Ernest
Giersber, Michael (pkg)
Hammell, Otto
Hocker, Mrs. Effie
Jordan, John P.
Lamont, Miss Edith
Madden, M. M.
Merrill, Nathan E.
Needham, H.
Peters, John A.
Porter, E. G.
Raines, Orrie S.
Reichenbach, Geo.
Reynolds, Mrs. O. A.
Scheer, A.
Walkes, Benjamin
Wright, R. T.

Sale of Animals at Public Auction.

CULEBRA, C. Z., June 25, 1910.

There will be sold at public auction, by the District Quartermaster at Ancon, Canal Zone, at the old corral, at 2 p. m., Saturday, July 16, 1910, to the highest bidder for cash, the following Isthmian Canal Commission property: Two (2) mules, American; three (3) horses, American; one (1) pony, native. The Government reserves the right to accept or reject any or all bids. For further information apply to the District Quartermaster, Ancon, Canal Zone.

C. A. DEVOL, *Chief Quartermaster.*

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

An interesting entertainment was given on Tuesday evening, July 1, by the English wizard, Mr. Carl Steventon. By request, he will give a return engagement, on Friday, July 15, when an entirely new program will be presented.

The bowling alleys which have been closed several weeks for repairs, will be opened for use this week. A bowling committee has been organized to arrange for a series of games.

EMPIRE.

The new Caruso records have proved a great attraction to the members.

The subject of the debate next Friday evening will be "Resolved, that United States senators should be elected by direct vote." Affirmative, Messrs. McLean and Ergenzinger, Negative, Messrs. Harlan and Pearson.

The membership committee has started to work in earnest. Mr. Gorham has pledged to bring in one member a day during the month. So far he has been successful. There is considerable rivalry as to which house in the bachelor quarters will have the largest percentage of membership.

The old phonograph in the clubhouse was sold at auction by the District Quartermaster on July 2, for $15.

The membership committee has arranged for some new attractive printed matter in the shape of circulars and posters, and for some additional entertainments during the month.

Mr. Steventon, the wizard, will be here on July 11, instead of the 7th. as originally announced.

The Gorgona minstrels will appear at the Empire clubhouse on the 15th.

The Juniors are planning a tramp to the Mandingo River in the near future.

CRISTOBAL.

An orchestra concert was given by the musicians from the steamship *Prinz Joachim*, on Monday, June 27.

The discussion club will meet on Thursday of this week at 8 p. m. The leader of this week's meeting will be Mr. Storla, and the subject, "Our Treatment of Strangers."

Mr. Carl Steventon, will give his entertainment of magic and wonders, Friday night of this week, July 8. Reserved seats are now on sale.

The Gorgona minstrels will appear before the people of Cristobal, on Tuesday, July 12.

GATUN.

The Gorgona minstrel troupe gave a performance at the Gatun clubhouse, Thursday, June 30. The audience numbered about 275 people. The finale consisted of some "Fun in a Schoolroom," in which the participants were E. C. Briggs, W. J. Wright, W. H. Jones, and E. R. Thompson.

The Gatun association has 351 members. A gain of 56 was made during June.

The mechanical drawing class, the Spanish class, the Bible classes and the chess tournament have closed.

C. W. Harrington and Mr. Myers now lead the ragtime bowling tournament with a score of 1,086; Luckey and Ruckert, 1,084, are second; Luckey and Barte, 1,083, third. The tournament ends July 9. Duck pins are popular just at present. Over 2,000 games of bowling were rolled during June.

The match game of pool between DePoorter and Hughes was won by the latter with a score of 100 balls to 146, DePoorter conceding 50 in 150. David Russell of Cristobal won from Eggleston of Gatun, Saturday night, score 50 to 38. Mr. DePoorter will play Mr. Hughes again on Friday night, conceding 50 balls.

Carl Steventon, the English wizard, will appear at Gatun clubhouse, Thursday evening, July 7, in a night of magic and fun. Members will be admitted free. Others, fifty cents. Children, half-price.

Gatun basketball team made its initial appearance Saturday night, when a team from Cristobal was defeated by a score of 22 to 7. B. E. Shell is captain of the Gatun team. Empire plays at Gatun, Saturday, June 9.

June Rainfall for Three Years.

STATION.	1908.	1909.	1910.	Station average.	Years of record.	No. rainy days—1910.
Pacific Section—	*Ins.*	*Ins.*	*Ins.*			
Ancon	4.28	9.90	8.82	8.69	13	24
Balboa	4.98	12.06	10.44	8.36	14	25
Miraflores	......	18.31	13.79	16.05	2	24
Pedro Miguel	7.71	14.19	14.42	12.11	3	24
Rio Grande	11.08	9.27	11.69	10.68	6	25
Central Section—						
Culebra	8.86	9.44	11.16	9.17	19	25
Camacho	12.87	10.52	12.11	12.07	4	24
Empire	8.21	7.84	10.14	8.57	7	26
Gamboa	6.15	9.55	12.08	9.72	29	26
Alhajuela	11.06	19.73	13.62	13.13	11	27
El Vigia	......	16.93	12.02	14.48	2	28
Gorgona	......	......	12.91	9.02	6	26
San Pablo	9.95	10.80	10.38	10.67	4	29
Tabernilla	11.41	11.16	10.15	10.57	3	29
Bohio	20.02	12.31	11.75	12.46	16	25
Trinidad	8.86	14.86	11.11	11.61	3	29
Atlantic Section—						
Gatun	13.33	16.35	11.41	13.38	5	27
Brazos Brook	14.81	18.63	11.86	15.03	4	29
Cristobal	10.53	17.49	13.63	13.23	40	26

Rainfall, June 1 to 30, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	2.02	15	8.82
Balboa	3.67	15	10.44
Miraflores	2.20	15	13.79
Pedro Miguel	1.51	15	14.42
Rio Grande	1.65	18	11.69
Central Section—			
Culebra	1.54	18	11.16
Camacho	2 46	28	12.11
Empire	1.35	28	10.14
Gamboa	1.95	3	12 08
Alhajuela	1.97	16	13.62
El Vigia	2 79	4	12.02
Gorgona	3.50	4	12 91
San Pablo	2 0[illegible]	3	10.38
Tabernilla	1.73	3	10 15
Bohio	2.49	19	11 75
Trinidad	3.01	15	11.11
Atlantic Section—			
Gatun	3.63	2	11.41
Brazos Brook	2.87	2	11 86
Cristobal	3.29	2	13.63

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending July 13, 1910, (75th meridian time):

DATE.	High.	Low.	High.	Low.	High.
	A. M	A. M.	P. M.	P. M.	P. M.
July 7	3.47	9.57	4.02	10.22	......
July 8	4.37	10.47	4.51	11.10	......
July 9	5.24	11.37	5.39	11.58	......
		P. M.			
July 10	6.10	12.25	6.27	......	......
			A. M.		
July 11	......	12.45	6.57	1.12	7.15
July 12	......	1.32	7.45	2.00	8 02
July 13	......	2.19	8.30	2 50	8 52

WEATHER CONDITIONS, CANAL ZONE, JUNE, 1910.

STATIONS.	Press're (reduc'd to mean of 24 hours.)	Temperature.					Mean relative humidity.	Precipitation.			Wind				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches.	Station average.	Number of rainy days.	Total movement (in miles.)	Prevailing direction.	Max. velocity (in miles.)	Direction.	Date.
Cristobal	29.853	79.3	89	13	73	17	90	13.63	13.23	26	4,598	S.E.	19	S.W.	19
Culebra	29.852	78.9	92	6	70	17	95	11.16	9.17	25	3,345	N.W.	24	N.E.	28
Ancon	29.844	79.3	90	26	71	17	90	8.82	8.69	24	4,096	N.W.	24	W.	29

BASEBALL.

No More Match Games.

All efforts to continue the post season ball games between players of the Isthmian and the Atlantic Leagues have been abandoned, and the baseball season of 1910 closes with the championship of the Isthmus unsettled.

Atlantic League Fielding Averages.

The fielding averages of players of the Atlantic League who have played in five or more games follows:

NAME AND CLUB.	G.	PO.	A.	E.	AV.
Beard, C.-S	13	20	14	0	1000
Morrell, C. A	10	19	8	0	1000
Woods, P. R. R	6	16	4	0	1000
Osborne, P. R. R	6	6	0	0	1000
McCusty, C.-S	16	152	20	6	.966
Roos, C. A	6	21	5	1	.962
Goree, Colon	7	2	22	1	.960
Rex, C. A	9	36	8	2	.956
Payne, C.-S	15	116	3	6	.952
Kenney, Colon	9	71	10	4	.952
Hope, Colon	16	31	5	2	.948
Heberling, P. R. R	10	82	12	6	.940
Edwards, C. A	16	99	15	8	.935
Cushing, P. R. R	5	28	0	2	.933
Reese, C.-S	7	10	4	1	.933
Lewis, P. R. R	15	81	28	9	.919
Daugherty, P. R. R	7	13	9	2	.916
Hiller, P. R. R	9	30	2	3	.914
Stevens, Colon	19	68	15	8	.912
Russell, C. A	13	7	34	4	.911
Lindberg, C.-S	16	10	0	1	.900
McGinnis, P.R.R. C.S	18	30	4	4	.894
Fleichman, C. A	15	21	37	7	.892
Bailey, Colon	8	5	19	3	.888
Davis, P. R. R	8	16	8	3	.888
Jeffries, Colon	5	11	3	2	.875
Herring, Colon	12	58	19	9	.872
Weber, Colon	17	16	20	6	.857
Murry, Colon	7	5	7	2	.857
Bradley, P. R. R	6	9	3	2	.857
Bryan, P. R. R	13	14	3	3	.850
Sonders, Colon	14	18	4	4	.846
Simmons, C.-S	11	2	37	6	.844
Ferrar, C. A	15	20	1	4	.840
Muggleton, C.-S	16	12	29	8	.836
Curtis, C.-S	12	23	23	9	.836
McKeever, C. A	8	8	11	4	.826
Smith, C.-S	14	21	21	10	.807
Coffin, C.-S	7	16	0	4	.800
Fechtig, C. A	6	12	5	3	.800
Bath, C. A	8	16	12	8	.777
Gilmartin, C.-S	5	9	7	5	.761
Cleary, Colon	9	14	10	8	.750
Dockery, P.R.R. Col.	7	17	18	12	.744
Major, C. A	5	5	6	4	.733
Wheeler, P. R. R	7	10	17	10	.733
Morton, Colon	6	8	10	7	.720
McCormack, C.-S	11	0	2	1	.666
Odea, Colon	6	1	3	2	.666
Blane, C. A	6	3	1	3	.571

Atlantic League Pitching Averages.

The averages of pitchers in the Atlantic League, who pitched in one or more games follows:

NAME AND CLUB.	W.	L.	SO.	BB.	TG.	PC.
Horrigan, C.-S	2	0	19	2	0	1000
Woods, P. R. R	2	0	14	7	0	1000
Davis, P. R. R	2	0	13	8	0	1000
Beard, C.-S	1	0	8	3	0	1000
Mosher, C.-S	1	0	9	0	0	1000
Cook, C. A	1	0	6	5	0	1000
Parker, Colon	1	0	5	2	0	1000
Coffin, C -S	1	0	1	6	0	1000
Edwards, C. A	1	0	10	3	0	1000
Simmons, C.-S	8	1	87	44	1	.888
Goree, Colon	4	2	30	12	0	.666
Stratton, P. R. R	1	1	17	2	1	.500
Lewis, P. R. R	1	1	19	4	0	.500
Fitzpatrick, P. R. R	1	1	6	3	0	.500
Bailey, Colon	1	3	41	21	1	.250
Russell, C. A	3	9	61	11	0	.250
Reese, C.-S	0	1	8	4	0	.000
Stevens, Colon	0	3	23	15	0	.000
Gund, P. R. R	0	2	12	6	0	.000
Cram, Colon	0	1	2	4	0	.000
Hillery, C. A	0	1	6	6	0	.000
Morrell, C. A	0	1	2	4	0	.000
Marshall, P. R. R	0	1	2	4	1	.000
Dawson, C.-S	0	1	0	2	0	.000
Herring, Colon	0	1	6	3	0	.000
Willis, P. R. R	0	1	7	3	0	.000
Case, P. R. R	0	0	14	2	0	*.000
Curtis, C.-S	0	0	7	2	0	.000
Massen, Colon	0	0	0	3	1	.000
Barney, Colon	0	0	2	0	0	.000
Doyle, C. A	0	0	2	5	0	.000
Christopher, P. R. R	0	0	0	2	0	.000

*Game thrown out.

LOST—On Cristobal beach, Fourth of July afternoon, a ladies' hunting case gold watch, Elgin movement. Initials on back, "M. T." Finder please notify E. M. Foster, Cristobal Y. M. C. A.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning July 2.

FRESH MEATS.

		Price.
Mutton—Stewing	per lb	7
Shoulder, neck trimmed off, (4 pounds and over)	per lb	10
Entire forequarter (not trimmed), 10 pounds and over	per lb	9
Leg (5 to 10 pounds)	per lb	19
Cutlets	per lb	20
Short-cut chops	per lb	22
Lamb—Stewing	per lb	7
Entire forequarter, neck trimmed off	per lb	10
Leg (5 to 8 pounds)	per lb	24
Chops	per lb	26
Cutlets	per lb	26
Veal—Stewing	per lb	10
Shoulder for roasting (not under 4 lbs)	per lb	15
Loin for roasting	per lb	19
Chops	per lb	22
Cutlets	per lb	26
Pork cuts	per lb	22
Beef—Suet	per lb	2
Soup	per lb	5
Stew	per lb	9
Corned	per lb.,	12, 14, 16
Chuck roast	per lb	13
Pot roast	per lb	15
Rib-roast, second cut (not under 3½ pounds)	per lb	18
Rib-roast, first cut (not under 3 pounds)	per lb	20
Sirloin roast	per lb	21
Rump roast	per lb	21
Porterhouse roast	per lb	21
Steak, Chuck	per lb	14
Round	per lb	15
Rib	per lb	20
Sirloin	per lb	21
Porterhouse	per lb	21
Rump	per lb	21
Tenderloin	per lb	24

MISCELLANEOUS.

Livers—Beef	per lb	10
Calf	each	60
Half	each	30
Sausage—Pork	per lb	17
Bologna	per lb	14
Frankfurter	per lb	14
Leberwurst	per lb	14
Sweet bread—Veal	per lb	1.20
Sweet bread—Beef	per lb	25
Eggs, fresh	dozen	28
Shads	each	75
Shad Roes	pair	40

POULTRY AND GAME.

Chickens—Fancy Roasting, large	each	1.50
medium	each	1.30
Fowls	each	70, 82, 93, 1.04, 1.15
Ducks, large	each	1.50
medium	each	1.30
Broilers	each	75
Turkeys	per lb	30
Squabs	each	35
Capons	each	2.50
Geese	each	2.50
Pheasants	each	70, 1.00
Partridges	each	50
Grouse	each	85

CURED AND PICKLED MEATS.

Ham—English York Cut	per lb	30
German, Westphalia	per lb	36
Sugar cured	per lb	21
Sugar-cured, sliced	per lb	25
Half, for boiling	per lb	22
Boiled	per lb	28
Hocks	per lb	18
Bacon—Breakfast, whole piece	per lb	28
Breakfast, sliced	per lb	29
Beef, salt, family	per lb	12
Pork, salt, family	per lb	18
Ox tongues	each	80
Pigs' feet	per lb	10
tongues	per lb	16
Mutton, mess	per lb	7

DAIRY PRODUCTS.

Butter—Creamery special	per lb	40
Cheese—Roquefort	per lb	38
Philadelphia Cream	cake	10
Young America	per lb	22
Swiss	per lb	26
Edam	each	1.00
Neufchatel	each	6
Gouda	per lb	34
Milk, Briarcliff	bottle	**25

VEGETABLES AND FRUITS.

		Price.
Celery	per hd	8
Lettuce	per hd	8, 12, 16
Cucumbers	per lb	5
Potatoes, white, old	per lb	3½
white, new	per lb	3½
sweet	per lb	2½
Yams	per lb	3½
Onions	per lb	5
Tomatoes	per lb	8
Turnips	per lb	4½
Carrots	per lb	†5
Beets	per lb	†6
Parsnips	per lb	3
Cabbage, new	per lb	*3½
Rhubarb	per lb	5
Green Corn	per doz	48
Asparagus	bunch	20
Lemons	dozen	24
Oranges, California	dozen	36
Watermelons	each	35
Canteloupes	each	10
Limes	per 100	80
Oranges	dozen	12
Grapefruit	each	4
Pineapples	each	18

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

§Sold only from Cold Storage and not from Commissaries.

Supplies for Canal Work.

The following steamers, with supplies for the Isthmian Canal Commission, arrived at the ports of Cristobal, Colon and Balboa during the week ending July 2, 1910:

Dacre Hill, June 25, from Pensacola, with 4,479 tons steel rail for stock.

Cristobal, June 27, from New York, with 31,319 barrels cement for Atlantic Division; 76,000 bags cement for Pacific Division.

Frieda, June 28, from Baltimore, with 423 tons structural material for locks for Atlantic and Pacific Divisions; 1,000 car wheels for Mechanical Division; 2 gasoline launches, 140 pieces galvanized pipe, and 7 cases fittings for Atlantic Division; 402 tons steel angles, bars, etc., 329 tons wrought steel pipe, 513 drums lubricating oil, 2,392 cases lubricating oil, 50 cans ozile composition, 22 cases window glass, 20 pieces push car bodies, 20 bundles wheels for same, 47 cases electrical supplies, and 16,326 cases dynamite for stock.

Panama, June 30, from New York, with 220 crates steel for Atlantic Division; 3 cases pump machinery for Central Division, 10 cases electrical appliances, and 8 cases rubber boots for Pacific Division; 49 bundles castings, 158 pieces castings, and 10 cases lamps for Mechanical Division, 7 cases leather belting, 22 cases transformers, 11 cases transformer oil, 15 cases insulating tape, 180 bundles iron pipe, 12 reels insulated copper wire, 25 tons steel bars and shafting, 67 cases lubricating graphite, 15 cases mineral door knobs, 60 cases alcohol, 65 packages wire cloth, 216 kegs rivets, 81 cases incandescent lamps, 54 crates coolers, 110 pieces flat bars, 146 drums car oil, and 350 cases car oil for stock; and a miscellaneous cargo, the whole consisting of 3,291 packages weighing 340 tons.

Kyleakin, June 30, from Gulfport and Mobile, with 633 pieces piling, and 26,000 feet yellow pine lumber for Atlantic Division; 93,570 feet yellow pine lumber; 865 pieces piling, 23,013 cross-ties, and 561 tons steel rails for stock.

Abangarez, June 30, from New Orleans, with 301 tons dump car parts for Cristobal shops, 88 pieces castings, and 29 bundles castings for Mechanical Division; 42,053 feet yellow pine lumber for Pacific Division; 154 pieces piling, 50 cases gas engine oil, 1,091 cross-ties, 24 bundles peavies, 11 crates oars, and 200 pieces cast iron pipe for stock.

Zacapa, July 1, from New York with 40 cases putty, 10 cases vises, 20 kegs iron bolts, 60 cases triple tape fuse, 68 bales water hose, 51 cases insulated wire, and 31 reels insulated wire for stock.

Chatham, June 29, from Seattle, with 837,308 feet Douglas fir lumber for stock, 236,474 feet Douglas fir lumber for Atlantic Division, and 117,675 feet Douglas fir lumber for Central Division.

Proposals for 20,000 Pounds Charcoal.

Sealed bids will be received at the office of the Depot Quartermaster, Mount Hope, C. Z., until 2 p. m., July 16, 1910, when they will be publicly opened, for 20,000 pounds of charcoal, to be made from mangle wood, or equal, and to be first-class in every respect, subject to inspection. Delivery must be made in lots of 10,000 pounds each, first lot to be delivered within twenty days after award is made. Delivery will be accepted free on board cars at any point on the Panama railroad, and charcoal will be weighed upon receipt at Mount Hope Depot. Material must be delivered in bags of which an equal number will be returned to the contractor. The right is reserved to reject any or all bids. Bids must be marked "Proposal for furnishing charcoal," and addressed to

C. NIXON, *Purchasing Agent on the Isthmus.*

LOST—At Hotel Tivoli on the night of July 4, a ¾-carat ladies' diamond ring, with Tiffany setting. Liberal reward if returned to C. E. Whipple, Gorgona.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Allianca	P. R. R.	Friday	July 1
Colon	P. R. R.	Thursday	July 7
Advance	P. R. R.	Tuesday	July 12
Panama	P. R. R.	Monday	July 18
Allianca	P. R. R.	Saturday	July 23
Colon	P. R. R.	Friday	July 29
Advance	P. R. R.	Thursday	Aug. 4
Panama	P. R. R.	Thursday	Aug. 11
Allianca	P. R. R.	Wednesday	Aug. 17
Colon	P. R. R.	Tuesday	Aug 23
Advance	P. R. R.	Monday	Aug. 29
Panama	P. R. R.	Saturday	Sept. 3
Allianca	P. R. R.	Saturday	Sept. 10

CRISTOBAL TO NEW YORK.

Cristobal	P. R. R.	Thursday	July 7
Allianca	P. R. R.	Tuesday	July 12
Colon	P. R. R.	Tuesday	July 19
Advance	P. R. R.	Saturday	July 23
Panama	P. R. R.	Saturday	July 30
Allianca	P. R. R.	Thursday	Aug. 4
Colon	P. R. R.	Wednesday	Aug. 10
Advance	P. R. R.	Tuesday	Aug. 16
Panama	P. R. R.	Tuesday	Aug. 23
Allianca	P. R. R.	Monday	Aug. 29

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

NEW YORK TO COLON.

Almirante	U. F. C.	Thursday	June 30
Prinz Aug. Wilhelm	H.-A	Saturday	July 2
Santa Marta	U. F. C.	Thursday	July 7
Clyde	R.-M.	Saturday	July 9
Metapan	U. F. C.	Thursday	July 14
Prinz Joachim	H.-A	Saturday	July 16
Zacapa	U. F. C.	Thursday	July 21
Atrato	R.-M.	Saturday	July 23
Almirante	U. F. C.	Thursday	July 28
Prinz Aug. Wilhelm	H.-A	Saturday	July 30
Santa Marta	U. F. C.	Thursday	Aug. 4
Tagus	R.-M.	Saturday	Aug. 6
Prinz Joachim	H.-A	Saturday	Aug. 13
Prinz Aug. Wilhelm	H.-A	Saturday	Aug. 27
Prinz Joachim	H.-A	Saturday	Sept. 10

COLON TO NEW YORK.

Zacapa	U. F. C.	Friday	July 8
Atrato	R.-M.	Wednesday	July 13
Almirante	U. F. C.	Friday	July 15
Prinz Aug. Wilhelm	H.-A	Tuesday	July 19
Santa Marta	U. F. C.	Friday	July 22
Tagus	R.-M.	Wednesday	July 27
Metapan	U. F. C.	Friday	July 29
Prinz Joachim	H.-A	Tuesday	Aug. 2
Zacapa	U. F. C.	Friday	Aug. 5
Prinz Aug. Wilhelm	H.-A	Tuesday	Aug. 16
Prinz Joachim	H..A	Tuesday	Aug. 30
Prinz Aug. Wilhelm	H.-A	Tuesday	Sept. 13
Prinz Joachim	H.-A	Tuesday	Sept. 27

NEW ORLEANS TO COLON.

Atenas	U.F.C.	Saturday	July 2
Turrialba	U.F.C.	Saturday	July 9
Abangarez	U.F.C.	Saturday	July 16
Atenas	U.F.C.	Saturday	July 23
Turrialba	U.F.C.	Saturday	July 30
Abangarez	U.F.C.	Saturday	Aug. 6

COLON TO NEW ORLEANS.

Abangarez	U.F.C.	Thursday	July 7
Atenas	U.F.C.	Thursday	July 14
Turrialba	U.F.C.	Thursday	July 21
Abangarez	U.F.C.	Thursday	July 28
Atenas	U.F.C.	Thursday	Aug. 4
Turrialba	U F.C.	Thursday	Aug. 11

COLON TO BARBADOS, CALLING AT TRINIDAD.

Clyde	R.-M.	Monday	July 18

The next sailings of the Leyland Line will be as follows: *Barbadian*, July 11, for New Orleans, and *Meltonian*, July 23, for Tampa, both via Kingston, Ja.

Hamburg-American steamers leave for New York at 10 a. m., and for Port Limon every Tuesday or Wednesday.

Royal Mail steamers leave for New York early in the morning and passengers should be on board the night before.

United Fruit Company ships for New Orleans leave on Thursday at 3 p. m., and for New York on Friday at 10 a. m.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, JULY 13, 1910. No. 46.

The Canal Record

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Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Rainy Season Record in Culebra Cut.

All records for excavation from Culebra Cut during a rainy season month were broken in June, when 1,305,141 cubic yards of rock and earth were taken out. The best previous record for a rainy season month was that of October, 1909, when 1,302,901 cubic yards were excavated. The excavation record for all months is that of March, 1910, a dry season month; and the June excavation fell only 204,487 cubic yards short of that. A comparison of the June excavation under the Americans follows:

June.	*Cubic Yards.*
1904	32,551
1905	76,905
1906	212,623
1907	624,586
1908	1,134,032
1909	1,242,134
1910	1,305,141

The rainfall in June, 1908, 1909 and 1910, at four stations along the nine miles of Culebra Cut, was as follows:

STATIONS.	1908.	1909.	1910.
	Inches.	*Inches.*	*Inches.*
Gamboa	6.15	9.55	11.95
Empire	8.21	7.84	10.14
Culebra	8.86	9.44	11.16
Rio Grande	11.08	9.27	11.69

Canal Work in June.

The grand total of Canal excavation in June was 2,616,609 cubic yards, of which 2,533,025 cubic yards were charged to "work excavation" and 83,584 cubic yards to "plant." The dry excavation amounted to 1,644,380 cubic yards and was principally by steam shovels. The dredges removed 972,229 cubic yards in addition to the amount pumped into Gatun Dam by suction dredges. The progress on the locks at Gatun and Pedro Miguel is referred to elsewhere in this issue.

In the Atlantic Division, the total excavation was 598,878 cubic yards. Of this total, 110,564 cubic yards were dry excavation and the remainder was removed by the dredges in the Atlantic entrance.

The total excavation in the Central Division was 1,491,916 cubic yards, all but 22,386 cubic yards of which was chargeable to work excavation.

In the Pacific Division, the total excavation was 525,815 cubic yards, all but 41,900 cubic yards of which was taken out by dredges at work in the Pacific entrance.

A detailed statement of work in the three divisions follows:

ATLANTIC DIVISION.

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, Dam and Spillway	88,088	22,476	110,564
Mindi	....	....	....
Total	88,088	22,476	110,564
Wet excavation—			
Atlantic entrance	458,021	30,293	488,314
Locks, Dam and Spillway	....	....	....
Total	458,021	30,293	488,314
Total wet and dry excavation	546,109	52,769	598,878
CENTRAL DIVISION.			
All dry excavation—			
Culebra Cut	1,302,189	....	1,302,189
Chagres section	164,389	22,386	186,775
Obispo Diversion	2,952	....	2,952
Total	1,469 530	22,386	1,491 916
PACIFIC DIVISION.			
Dry excavation—			
Locks, Dams and Spillways	30,414	....	30,414
Diversions	....	....	....
Prism, south of Pedro Miguel Locks	11,486	....	....
Total	41,900	....	41,900
Wet excavation—			
Pacific entrance	475,486	8,429	483,915
Miraflores Locks	....	....	....
Diversions	....	....	....
Total	475,486	8,429	483,915
Total wet and dry excavation	517,386	8,429	525,815
TOTAL CANAL EXCAVATION.			
Dry excavation	1,599,518	44,862	1,644,380
Wet excavation	933,507	38,722	972,229
Total	2,533,025	83,584	2,616,609

Mean rainfall along Canal (eleven stations) 11.67 inches.

By "Work" Excavation is meant excavation actually made for one of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc.; that is, it represents material taken from the area to be occupied by the Canal, and constitutes excavation useful for the completed Canal.

By "Plant" Excavation is meant excavation outside of any of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc. It includes material necessary to be excavated for construction purposes only and is chargeable against the particular plant item for which it is performed, such as Prism, Diversions, Locks, etc.

DAM AND LOCK CONSTRUCTION.

MATERIAL.	Atlantic.	Pacific.	Total.
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Fill placed in dams	655,449	8,706	664,155
Concrete laid in dams and spillways	2,589	....	2,589
Concrete laid in locks	89,391	32,234	121,625

EXCAVATION ESTIMATE.

Seven Million Cubic Yards Added to Estimate for Central Division Work.

A new estimate of the amount of excavation in the Central Division has been made and, although it adds over seven million cubic yards to the old estimate, it is believed that it will not affect either the time of completion of this part of the work, or its cost.

According to the estimate made in 1908 the quantity of material remaining to be excavated in the Central Division after April 30, 1910, would have been 33,796,733 cubic yards, while the new estimate places the total at 41,127,258 cubic yards, an increase of 7,330,525 cubic yards. The increase is due to the following causes:

(1) The widening of the basin north of Pedro Miguel Locks, details of which were published in THE CANAL RECORD of April 20, 1910, added 932,572 cubic yards.

(2) Excavation to elevation 39 feet above sea level, which has been deemed advisable in the Chagres Section, increased the estimate by 279,847 cubic yards.

(3) Experience with high water in the Chagres River during the rainy season of 1909, when 152,515 cubic yards of sand and gravel were deposited in the Canal at Santa Cruz and Matachin, makes it advisable to allow 670,000 cubic yards for silting.

(4) In the fiscal year ending June 30, 1909, there were removed from slides in the Central Division. outside the slope line, 884,530 cubic yards, and in the fiscal year just ended, 2,649,563 cubic yards.

In the new estimate of yardage remaining after April 30, 1910, an allowance of 6,104,150 cubic yards is made for slides. In May and June of this year the quantity removed from slides was 404,000 cubic yards, leaving a remainder, as estimated, of 5,700,150 cubic yards. In addition, 1,005,938 cubic yards are allowed to cover breaking beyond the slope line below the berm at 95 feet above sea level.

The figures with regard to slides should be considered in connection with those showing the magnitude of the work in the Central Division and the rapidity with which the excavation is being accomplished. In the fiscal year ending June 30, 1909, the material removed from the Culebra Section (Culebra Cut) of the Central Division was 13,606,698 cubic yards, of which 884,530 cubic yards, or about 7 per cent, was from slides. In the fiscal year 1910, the excavation in Culebra Cut amounted to 14,895,684 cubic yards, of which 2,649,563 cubic yards, or about 18 per cent, was from slides. The new estimate shows that on July 1, 1910, the total remaining yardage in Culebra Cut was 34,896,483 cubic yards, 18 per cent of which would be 6,280,000 cubic yards.

Although the total quantity to be excavated is very materially increased in the new estimate by the allowances for slides, breaks, and silting, yet it is confidently believed that neither the ultimate cost of the work in the Central Division as estimated in October, 1908, nor the ultimate time of completion will be affected by the increase, owing to the fact that since these estimates were submitted the cost of excavation has decreased very materially and the rate of progress in excavation has been greater than was anticipated.

Fruits and Vegetables at the Commissaries.

Practically all the readily salable fruits now carried in the New York and New Orleans markets are to be found at the commissaries.

One ton of cherries was received on the *Allianca* on July 7, and one ton each of California plums and Southern peaches on the *Atenas* from New Orleans on the same date. In addition, the *Atenas* brought 1,000 Georgia watermelons and 4,000 cantelonpes.

Regular shipments of vegetables are being received, including new potatoes, tomatoes, beets, carrots, cauliflower, cabbage, onions, celery, turnips, lettuce, cucumbers and rhubarb. A shipment of two tons of tomatoes is made on every boat, enough, it is estimated, for a three days' supply at the commissaries. The demand for tomatoes is staple, but experience has shown that they will not remain in a salable condition much longer than the period mentioned. A trial shipment of 300 dozen ears of green corn was received last week, and the consignments will be increased in size, according to the demand, as the season in the States advances. Most of the lettuce and celery, now on sale, comes from Bermuda, and the time that elapses in getting it here detracts somewhat from its freshness. The Bermuda lettuce and celery is softer than that grown in the States.

It is the policy of the commissary department to provide its customers with local produce, whenever there is a demand for it, and when it can be obtained at a reasonable figure. Under this plan, papaya, okra, leeks, parsley and string beans are now purchased almost exclusively on the Isthmus. The local string bean is in especial favor with the consumers. It is of smaller size than the imported article, but equals it in flavor, and has the advantage of being supplied while fresh and tender. Experience has shown that the string bean grows very luxuriantly on the Isthmus, maturing in from six to eight weeks after planting. Packets of string bean seed are on sale at the commissaries at 5 cents each. The seed should be planted on well drained soil, but the soil need not be particularly rich.

A large quantity of tropical fruit is imported from Jamaica, but the season is about over. The commissaries are kept supplied, however, with pineapples, mangos and avocados (alligator pears) through local purchase. California navel oranges are also on sale at the present time.

Rock Crushing at Porto Bello.

A statement of the work done at the Porto Bello crusher, by days, for the week ending July 9, follows:

DATE.	Hours worked.	Cubic Yards.
July 5	12:35	2.507
July 6	12:10	3.139
July 7	6:32	1,829
July 8	9:13	2,506
July 9	10:15	2,528
Total	50:45	12.509

THE PEDRO MIGUEL PLANT.

Two Berm Cranes and Four Chamber Cranes now in Operation.

The trestle for the transportation of concrete into the east chamber of the Pedro Miguel Locks was completed last week, and on Wednesday, July 6, two berm and three chamber cranes were in operation for the first time. The fourth chamber crane was placed in service this week. The cranes in the east chamber will place concrete in the center and east side walls, but at present are able to work only on the center wall. A quantity of earth has slid down the east bank of the lock pit, and this must be cleared away and the forms laid before operations can be extended to this section. The removal of the dirt is now in progress.

A section of the west wall of the locks has been completed to its permanent height of 81 feet above the lock floor, or 92 feet above sea level, and is being extended south to the limit of the floor. Work is continuing on the floor and lateral culvert section in the east chamber, the auxiliary mixer furnishing the material, which is placed by derrick and locomotive crane. The building of the north head wall in the east chamber is advancing, a derrick being used to handle the material at that point.

With the whole handling plant in operation, together with other work going on, necessity has arisen for additional motive equipment, and two more Porter locomotives have been ordered. Five of the engines are engaged in hauling concrete into the west chamber, and two into the east chamber, while two haul concrete trains from the auxiliary mixer. The effect of the constant strain on the iron gears of the berm crane mixers is becoming apparent, and it is proposed to substitute manganese steel gears when a change becomes necessary.

A total of 7,743 cubic yards of concrete was laid in the locks at Pedro Miguel during the week ending July 9, an average of about 1,549 cubic yards for each of the five working days, which is the highest daily average up to this time. The record in detail follows:

	CUBIC YARDS.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
July 4	....	....	....	....
July 5	1,012	268	20	1,300
July 6	1,222	116	10	1.348
July 7	1,226	372	47	1.645
July 8	1.364	396	50	1,810
July 9	1.340	300	....	1.640
Total	6.164	1,452	127	7,743
Previously reported	....	....	....	172,539
Grand total	....	....	....	180,282

In addition 577¼ cubic yards of concrete were laid in the Miraflores Locks, making the total at that point at the close of work on July 9th, 2,360 cubic yards.

Rio Grande and Auxiliary Water Supply.

The entire pumping system at the Cocoli reservoir was placed in operation on June 13. During the month of June, 823,000 gallons of water were delivered to the 16-inch Rio Grande main, a daily average of 531,654 gallons, not counting Sundays, when the pumping station was shut down.

The Rio Grande reservoir has been bank full and flowing over the spillway for the past ten days. The elevation on June 30 was 236.27 feet above sea level, a rise of 7.13 feet during June, which is above the average. The total amount of water delivered into the supply main during the month was 106,082,000 gallons, a daily average of 3,536.067 gallons. The work of clearing the vegetation from around the edge of the reservoir was completed in June. A permanent force of five men has been employed to keep the grass and vegetation cut during the coming year.

Building Gatun Locks.

The progress of concrete laying in the locks at Gatun during the week ending July 9, and since the beginning of work in August, 1909, is shown in the following statement:

	CUBIC YARDS.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
July 4	....	....	....	....
July 5	2,230	774	245	3,249
July 6	2,428	1.050	353	3,831
July 7	2,154	970	287	3.411
July 8	2,160	776	236	3,172
July 9	2,076	800	200	3.076
Total	11.048	4.370	1,321	16,739
Previously reported	....	....	....	520.085
Grand total	....	....	....	536.824

More Passenger Space on Ancon and Cristobal.

An enlargement of the steerage space on the Panama railroad steamships *Ancon* and *Cristobal* is being made, which will furnish accommodations for 60 steerage passengers on each of these vessels. The improvements provide for 15 new four-berth rooms on each ship, some of them made connecting so as to accommodate more than four persons in one family traveling together, and are being carried out in an up to-date manner in order that the quarters can be made available for other than steerage passengers in times of emergency. The work of making the necessary changes to the *Ancon* will be practically completed prior to its sailing from New York on July 13, and those to the *Cristobal* will be made previous to its return voyage.

Rock Crushed at Ancon Quarry.

A statement of rock crushed at Ancon quarry during the week ending July 9, follows:

DATE.	Hours worked.	Cubic Yards.
July 4*	....	....
July 5	3:30	960
July 6	6:15	1,572
July 7	7:20	1,800
July 8	6:00	1,536
July 9	5:35	1,296
Total	28:40	7,164

*Holiday.

Central Division Track Shifters.

A statement of tracks raised and thrown by machines in the Central Division during the month of June follows:

SHIFTER No.	Location.	Amount.
		Feet.
No. 5	Tabernilla	213,305
No. 6	Mamei	32,800
No. 7	Santa Cruz Relocation	255,615
No. 1	Alligator Curve	1,500
No. 8	Miraflores	141,005
No. 2	Balboa	172,300
Total		*816,525

*Or 154.6 miles.

WORK OF STEAM SHOVELS.

Record of Excavation by Central Division Shovels During June.

During the month of June the total amount of material excavated in the Central Division was 1,491,916 cubic yards, of which 318,114 cubic yards were classified as earth and 1,173,802 cubic yards as rock. Of this quantity, 1,443,099 cubic yards were removed by steam shovels, 22,386 cubic yards by hand, 16,241 cubic yards by contract, and 10,190 cubic yards by orange peel bucket crane.

The high record for the month was made by shovel No. 264 working 26 days in the Empire District, which excavated 49,664 cubic yards of rock. The second record for the month was made by shovel No. 212 working 26 days in the Culebra District, which excavated 48,465 cubic yards of rock. The best record for a shovel of the 70-ton class was made by shovel No. 132 working in the Chagres District, which excavated 32,422 cubic yards of earth in 26 working days.

Shovel No. 217, working in the Culebra District made the high record for one day by excavating 3,097 cubic yards of rock on June 30. Shovel No 128 working in the Chagres District excavated 1,560 cubic yards of earth on June 28, the high record for one day for a 70-ton shovel during the month.

Except where noted, monthly records are computed by place measurement, while the daily records are based on car measurement. The best records for the month and for one day in each district are shown below:

CHAGRES DISTRICT.

Shovel No.	Cubic Yards.			No. of days at work.
	Earth.	Rock.	Total.	
132	30,801	1,621	32,422	26
115	20,479	4,692	25,171	23

EMPIRE DISTRICT.

Shovel No.	Earth.	Rock.	Total.	No. of days at work.
264	....	49,664	49,664	26
229	....	44,864	44,864	26

CULEBRA DISTRICT.

Shovel No.	Earth.	Rock.	Total.	No. of days at work.
212	11,296	37,169	48,465	26
208	....	46,244	46,244	25

BEST RECORDS FOR ONE DAY.

Shovel No.	Location.	Date.	Character of material excavated.	Cubic yds. excavated.
128	Chagres..........	June 28.	Earth..........	1,560
115	Chagres..........	June 9.	Rock aud earth	1,540
115	Chagres..........	June 11.	Rock and earth	1,540
220	Empire..........	June 25.	Rock..........	2,389
264	Empire..........	June 17.	Rock..........	2,291
229	Empire..........	June 28.	Rock..........	2,240
217	Culebra	June 30.	Rock and earth	3,097
266	Culebra	June 1.	Rock..........	2,926
217	Culebra..........	June 24.	Rock and earth	2,907
231	Pedro Miguel....	June 7.	Rock..........	2,812

Charged With Recruiting Laborers.

Edgar Francisco, a West Indian negro, was arrested in Colon on the afternoon of July 11, by the Panamanian authorities on a charge of recruiting laborers in violation of Executive Decree No. 25 of May 12, 1909. Four witnesses were also held.

Fire at Washington Hotel.

A fire broke out in room 10 on the second floor of the Washington Hotel, Colon, at about 8.30 o'clock in the evening of July 4, caused by an electric light inside of a wardrobe. It was practically extinguished with chemicals by the hotel force, but Hose Company No. 1 on reaching the hotel turned on two additional extinguishers and made a thorough inspection of the premises. The wardrobe was badly burned and the wall and ceiling above it charred. The damage to Panama railroad property is placed at $41.99; to private property, according to the estimate of the owners, $300.

Culebra Island and Palo Seco Reservoirs.

Work was completed on June 30 on the new 100,000-gallon reinforced concrete reservoir on Naos Island, which will supply sea water to the quarantine buildings on Culebra Island. Three hundred and seventy-five feet of 3½-inch galvanized iron pipe and 67 feet of 4-inch galvanized iron pipe were laid in connecting the reservoir with the 3½-inch main from the pumps. The total amount of concrete used was 175 cubic yards. The pumping equipment originally installed in connection with water facilities on Culebra Island is being used for the new service, and the same pipe-line through which the water is pumped from the sea into the reservoir conveys it back to the distributing system on Culebra Island, the operation of the pumps causing no interference. About 45 pounds of gravity pressure is developed under a full head.

The building of a 10,000-gallon reinforced concrete reservoir, and the installation of a small water and sewer system at the Palo Seco leper settlement will be finished this week. Boulders taken from the reservoir excavation and broken up furnished the crushed rock, while sand was obtained from the beach. The reservoir is located at a high enough elevation to give an adequate gravity pressure. Water will be drawn from the artesian well, 130 feet in depth, sunk some time ago, and the pump, driven by a gasoline engine will be situated directly over it. The reservoir main consists of a 4-inch cast iron pipe, and the principal sewer of an 8-inch vitrified pipe. Two or three hydrants will be installed for fire protection, and later, a volunteer fire company will probably be organized among the male inmates of the asylum.

Man Washed Through 269 Feet of Pipe.

Juan Antolin, a Spanish laborer, aged 38 years, was washed through 269 feet of 20-inch drain pipe at Gatun Dam on the afternoon of July 4, and is recovering from the bruises he sustained. He was one of a gang at work on a floating platform keeping debris from the hydraulic fill in the west section of the dam, from being carried into the drain pipe and clogging it. He fell from the platform and although his fellow workers tried to rescue him, was carried head first into the pipe. A minute later he was washed out of the discharge end of the pipe into the old West Diversion channel, whence he swam and was dragged ashore.

Applications for Family Quarters.

On June 1, there were but 37 applications on the No. 1 list for married quarters. The completion of the type-14 houses at Gatun, with the vacancies in sight, will practically eliminate the No. 1 list of applicants at that point. The No. 2 list remained nearly stationary during May. Two type-18 houses at Empire were converted into nonhousekeeping quarters, and were assigned to applicants from Gorgona, Gatun and Cristobal.

	No. 1 List.	No. 2 List.
Ancon	2	22
Ancon Hospital..........................	2	3
Balboa..........................	....	43
Bas Obispo..........................	....	78 (25)
Corozal..........................	1	21
Cristobal..........................	1	152
Culebra	....	....
Empire..........................	1 (1)	1
Gatun..........................	19 (2)	120 (46)
Las Cascadas..........................	1	10 (8)
Miraflores..........................	1	1
Paraiso..........................	2	38 (10)
Pedro Miguel..........................	7	4
Porto Bello..........................	....	23
Tabernilla..........................	....	....
Total..........................	37 (3)	516 (89)
May 1	72 (22)	520 (85)
April 1..........................	77	469

The figures in parentheses show the number of applicants already occupying regular or nonhousekeeping family quarters at stations, other than those at whic happlications are filed.

Sentenced for Manslaughter.

Francisco Facio, José Angel and Pablo Guterrez, arrested for causing the death of Murro Giuseppe at Tabernilla some time during the night of June 14, were tried for manslaughter in the Circuit Court at Empire on Tuesday, July 5, and convicted. Sentence was imposed by Judge Gudger on Tuesday, July 12, Facio, who, the evidence showed was the principal in the crime, being given a 5-year sentence in Culebra penitentiary. Angel and Guterrez were given penitentiary sentences of two years each.

Panama Canal Service Medal Association.

Notice to all Concerned—In accordance with the constitution and by-laws of the above association the charter membership will close on July 31, 1910, and thereafter, an initiation fee of $5 will be collected from each applicant, in addition to the yearly dues of $1, and in the case of a beneficiary member $4, to be placed in the reserve fund for payment of death benefits. For further information, and application blanks address

E. F. J. GOLDSMITH,
Secretary and Treasurer,
P. O. Box 115, Ancon, C. Z.

STATEMENT OF CLASSIFIED EXPENDITURES TO MAY 31, 1910.

	Department of Civil Administration.	Department of Sanitation.	Department of Construction and Engineering.	General Items.	Total.
Total to June 30, 1909..........	$3,427,090.29	$9,673,539.28	$69,622,561.42	$78,022,606.10	$160,745,797.09
1909—					
July..........................	64,209.14	140,580.90	1,593,250.14	274,418.57	2,072,458.75
August..........................	49,771.51	150,123.15	1,709,471.48	242,189.42	2,151,555.56
September..........................	57,868.94	153,406.14	1,911,262.84	217,335.42	2,339,873.34
October	61,740.56	159,391.49	2,022,010.34	431,288.66	2,674,431.05
November..........................	65,088.00	156,646.64	1,853,495.96	229,497.97	2,304,728.57
December..........................	59,076.20	150,401.41	2,102,637.61	336,668.91	2,648,784.13
1910—					
January..........................	82,756.89	163,379.71	2,673,797.41	412,915.15	3,332,849.16
February..........................	59,251.83	136,941.46	2,126,328.26	*195,770.76*	2,126,750.79
March..........................	60,522.35	136,390.97	2,344,711.03	392,015.14	2,933,639.49
April..........................	62,722.26	149,375.00	2,611,279.63	460,945.16	3,284,322.05
May..........................	25,176.21	141,671.68	2,495,208.10	277,438.24	2,939,494.23
Total..........................	$4,075,274.18	$11,311,847.83	$93,066,014.22	$81,101,547.98	$189,554,684.21

RECORD OF CANAL WORK SINCE AMERICAN OCCUPATION.

MONTHLY TOTALS BY CUBIC YARDS OF EXCAVATION AND LOCK AND DAM CONSTRUCTION.

[*All figures are of work useful for the completed Canal.*]

DRY EXCAVATION.

CENTRAL DIVISION.

MONTHS.	CULEBRA SECTION.*							CHAGRES SECTION.**			
	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1907.	1908.	1909.	1910.
January	....	70,650	120,990	566,750	1,227,022	1,150,249	1,323,693	....	169,447	389,399	175,802
February	....	75,200	168,410	639,112	1,248,265	1,194,454	1,259,173	....	200,145	450,182	286,309
March	....	132,840	239,178	815,270	1,290,885	1,434,597	1,509,728	....	324,233	619,491	484,846
April	....	126,749	213,177	879,527	1,242,574	1,272,746	1,288,845	....	329,483	510,020	428,777
May	27,556	75,935	196,209	690,365	960,840	1,126,963	1,099,279	....	235,902	386,170	248,974
June	32,551	76,905	212,623	624,586	1,134,032	1,242,134	1,305,141	....	322,145	275,900	164,389
July	31,599	78,570	159,789	770,570	1,121,325	1,200,828	....	....	345,757	233,897	....
August	35,056	49,210	244,823	786,866	1,173,800	1,173,370	....	2,900	366,810	231,543	....
September	25,220	44,085	291,452	753,468	1,122,860	1,235,978	....	21,546	346,948	235,818	....
October	19,695	52,940	327,009	834,499	1,160,101	1,302,901	....	25,627	424,911	221,409	....
November	28,860	60,540	221,642	790,632	1,022,576	1,070,792	....	44,044	336,390	93,619	....
December	42,935	70,630	307,689	1,025,485	1,210,046	1,152,022	....	98,652	383,948	105,044	....
Totals	243,472	914,254	2,702,991	9,177,130	13,914,326	14,557,034	7,785,859	192,769	3,786,119	3,752,492	1,789,097

MONTHS.	ATLANTIC DIVISION.					PACIFIC DIVISION.					
	COLON (MINDI)†		GATUN LOCKS, DAM AND SPILLWAY.††			PEDRO MIGUEL LOCKS.‡			MIRAFLORES LOCKS, DAMS AND SPILLWAY.‡‡		
	1909.	1910.	1908.	1909.	1910.	1908.	1909.	1910.	1908.	1909.	1910.
January	45,664	....	292,155	102,690	125,011	....	83,726	27,320	7,203	61,202	31,479
February	46,046	....	282,797	95,031	123,738	....	58,242	9,486	39,046	53,689	15,300
March	70,713	....	374,598	90,051	132,007	....	95,624	6,784	73,194	51,417	18,184
April	74,368	....	373,456	70,009	103,243	....	101,365	9,129	98,943	60,060	12,148
May	71,407	....	266,747	52,786	82,958	....	57,523	10,405	73,023	47,588	20,250
June	80,101	....	244,951	36,556	88,088	13,228	70,971	8,420	68,691	55,653	21,994
July	82,378	....	213,359	39,058	....	22,648	77,503	....	104,369	50,999	....
August	66,249	....	188,262	40,346	....	22,217	58,025	....	94,248	35,446	....
September	61,437	....	145,990	49,945	....	28,833	48,825	....	90,923	31,803	....
October	72,643	....	154,064	57,321	....	48,875	39,002	....	74,700	25,349	....
November	42,009	....	118,278	63,452	....	55,401	20,207	....	52,930	18,644	....
December	....	....	119,904	96,590	....	65,578	28,342	....	69,650	20,083	....
Total	713,015	....	2,774,561	793,835	655,045	256,780	739,355	71,544	846,920	511,933	119,355

*Total to July 1, 1910, 49,295,066 cubic yards.

**Total to July 1, 1910, 9,520,477 cubic yards.

†Total to July 1, 1910, 1,476,821 cubic yards; in this total are included 172,851 cubic yards removed in 1907, and 590,955 cubic yards removed in 1908.

††Total to July 1, 1910, 5,590,248 cubic yards; in this total are included 26,628 cubic yards excavated October to December, 1906, and 1,340,179 cubic yards in 1907; there were also 38,425 cubic yards removed by dredges at Gatun Dam site in 1907.

‡Total to July 1, 1910, 1,067,679 cubic yards.

‡‡Total to July 1, 1910, 1,478,208 cubic yards; there were also 78,233 cubic yards excavated at Balboa locks and dams in 1907; and 239,001 cubic yards at different points in prism to July 1, 1910.

WET EXCAVATION.

MONTHS.	ATLANTIC DIVISION.						PACIFIC DIVISION.						
	ATLANTIC ENTRANCE.§				GATUN LOCKS.		PACIFIC ENTRANCE.§§						Miraflores Locks.§§§
	1907.	1908.	1909.	1910.	1908.	1909.	1905.	1906.	1907.	1908.	1909.	1910.	1910.
January	111,100	490,701	521,050	510,055	....	97,043	....	95,940	94,710	460,250	469,529	518,936	....
February	110,002	427,722	444,910	493,448	....	132,291	....	95,940	93,480	663,519	671,477	285,791	....
March	84,145	546,886	461,208	412,325	....	141,838	....	116,820	92,319	783,281	865,696	462,588	....
April	69,889	496,366	470,635	190,574	....	17,938	....	110,700	104,855	676,539	731,767	534,322	....
May	133,847	564,386	315,370	447,578	....	52,011	....	112,340	122,157	530,466	720,753	484,509	....
June	124,118	572,749	182,575	458,021	....	38,829	50,676	62,697	133,575	656,621	844,685	475,486	....
July	109,922	625,497	348,451	....	....	....	41,533	98,400	108,338	696,170	733,181	....	....
August	194,297	638,217	422,846	....	....	....	54,530	111,930	168,284	737,774	623,263	....	....
September	403,842	624,776	410,574	....	....	....	114,308	105,780	153,975	750,080	662,976	....	....
October	415,120	505,260	314,778	....	....	....	81,836	97,170	357,122	762,276	720,920	....	....
November	422,797	570,832	457,889	....	....	....	71,176	92,988	365,423	609,089	627,791	....	....
December	442,835	679,604	489,121	....	8,583	....	71,094	90,528	349,551	729,960	727,460	....	....
Totals	2,621,914	6,742,996	4,839,407	2,512,001	8,583	479,950	485,153	1,191,233	2,143,789	8,056,025	8,399,498	2,761,632	....

§Total to July 1, 1910, 18,143,783 cubic yards; in this total are included 399,820 cubic yards excavated in 1905, and 1,027,645 cubic yards in 1906.

§§Total to July 1, 1910, 23,037,330 cubic yards; there were also 172 cubic yards removed by steam shovels during October, 1908.

§§§Total to July 1, 1910, 309,647 cubic yards, all of which was taken out by dredge in 1909.

CONCRETE IN LOCKS AND DAMS.

MONTHS.	GATUN LOCKS.			PEDRO MIGUEL LOCKS.			MIRAFLORES LOCKS.	
	1909.	1910.	1911.	1909.	1910.	1911.	1909.	1910.
January	....	54,136	....	....	16,273	....	....	....
February	....	55,696	....	....	13,218	....	....	146
March	....	60,998	....	....	18,793	....	....	314
April	....	63,227	....	....	24,522	....	....	13
May	....	74,273	....	....	29,576	....	....	27
June	....	89,391	....	....	30,631	....	....	1,603
July	....	....	....	....	....	....	28	....
August	1,298	....	....	....	....	....	74	....
Sept	12,294	....	....	2,370	....	....	....	....
October	29,378	....	....	8,310	....	....	....	....
Nov'mber	30,270	....	....	10,169	....	....	....	....
December	42,832	....	....	13,007	....	....	....	....
Total	116,072	397,721	....	33,856	133,013	....	102	2,103

From March 17, 1909, to July 1, 1910, there were placed in the Spillway of Gatun Dam 84,696 cubic yards of concrete, including 2,589 cubic yards placed in June, 1910; in Miraflores Dam there were placed 321 cubic yards up to July 1, 1910.

FILL PLACED IN DAMS.

MONTHS.	GATUN.*		PEDRO MIGUEL.†	MIRAFLORES.‡	
	1910.		1910.	1910.	
	Wet.	Dry.	Dry.	Wet.	Dry.
January	178,254	236,994	....	....	28,151
February	292,215	271,788	11,510	....	1,438
March	332,661	210,387	22,860	....	5,385
April	242,440	263,437	31,394	....	6,480
May	204,275	249,283	23,572	....	7,356
June	271,283	384,166	1,350	....	....
July	....	....	....	....	....
August	....	....	....	....	....
September	....	....	....	....	....
October	....	....	....	....	....
November	....	....	....	....	....
December	....	....	....	....	....
Total	1,521,128	1,616,055	90,686	....	48,810

*Dry fill begun in January, 1907, and 2,096,477 cubic yards of wet, and 2,405,890 cubic yards of dry fill were placed in 1907, 1908 and 1909.

†170,166 cubic yards placed in dams up to December, 1909, inclusive.

‡138,587 cubic yards of wet fill and 472,091 cubic yards of dry fill were placed in dams up to December, 1909.

CANAL EXCAVATION TO DATE.

By French Companies		78,146,960
French excavation useful to present Canal		29,908,000
By Americans—		
Dry excavation	68,745,905	
Dredges	42,017,718	
Total		110,763,623
May 4 to December 31, 1904	243,472	
January 1 to December 31, 1905	1,799,227	
January 1 to December 31, 1906	4,948,497	
January 1 to December 31, 1907	15,765,290	
January 1 to December 31, 1908	37,116,735	
January 1 to December 31, 1909	35,096,166	
January 1 to June 30, 1910	15,794,236	

TOTALS BY DIVISIONS AND AMOUNT TO BE EXCAVATED.

DIVISIONS.	Amount excavated.		Remaining to be Excavated.	
Atlantic—				
Dry excavation	7,067,069	25,737,810	2,494,842	17,339,500
Dredges	18,670,741		14,844,658	
Central—				
Culebra Cut	49,295,066	58,815,543	28,747,229	30,978,950
All other points	9,520,477		2,231,721	
Pacific—				
Dry excavation	2,863,293	26,210,270	3,067,287	15,584,521
Dredges	23,346,977		12,517,234	
Grand totals		110,763,623		63,902,971

SOCIAL LIFE OF THE ZONE.

Women's Clubs and Other Events.

At the meeting of the Pedro Miguel Woman's Club held at the residence of Mrs. Ed. Brown on Wednesday afternoon, June 29, a reception followed the short business session. The house and table decorations were appropriate to the Fourth of July. There were a good attendance. The next meeting will be held at the home of the president.

The employes of the Pedro Miguel roundhouse will hold a dance at the Paraiso lodge hall on Saturday evening, July 30. The committee on arrangements has engaged Talty's orchestra for the occasion. Tickets are to be had at $1 each.

A meeting of the Colon Humane Society will be held on Sunday, July 17, when the members' badges, which were recently received, will be distributed.

A special meeting of the Isthmian Canal Rebekah Lodge No. 1, Gorgona, was held at the lodge hall on Saturday evening, July 9, when 18 candidates, all from Cristobal, were admitted. After the formal exercises the meeting adjourned for a social session. The Rebekah Lodge has a membership of 75. The meetings are held on the second and fourth Friday evenings in each month.

The Terpsichoreans held an informal dance at the Commission clubhouse, Empire, on Saturday evening, July 9.

A party of students from the Escuela de Artes y Oficios de Panama spent Saturday of last week in Gorgona inspecting the work in the shops for the purpose of seeing practical results. They were the guests of the Commission.

The Culebra Club will give an informal dance at the Commission clubhouse on Saturday evening, July 16.

Church Work.

A missionary meeting was held under the auspices of the ladies of Corozal in the social hall on Friday afternoon, July 8, when Mrs. J. Leon Webster, head of the Woman's Foreign Missionary Society of the Methodist Episcopal Church on the Isthmus, spoke on the systematic development of the Christian life. Mrs. Webster illustrated her talk with blackboard charts. At the close of the meeting an informal reception was held, when refreshments were served.

The Rev. J. H. Sobey, Commission chaplain and pastor of the Baptist churches in Empire and Colon and in charge of other Zone missions, has been granted a three months' leave of absence owing to ill-health. Mr. Sobey will sail for the States, accompanied by Mrs. Sobey, on the *Ancon* this month. He will spend his vacation with his son in Seneca Falls, N. Y.

The progress of the Union Christian League of Culebra during the six months just ended, under the leadership of Chaplain A. A. Nellis, has been highly gratifying. Fifteen new members have been added and five members have moved away, leaving a net gain of 10. The attendance has averaged about 41 for the Sunday evening preaching services and about 12 for the Thursday evening prayer meetings.

St. Mary's Social Club, Balboa.

The men of the Roman Catholic Church at Balboa have formed an organization called the St. Mary's Social Club. The officers are: President, Peter Flynn; vice-president, Michael Lyden; financial secretary, John Mellon. The club is for literary and social purposes, and meetings will be held on Wednesday evening of each week.

First Issue of The Zonian.

The first issue of *The Zonian*, the annual school paper of the Canal Zone high school has been issued. The publication is in magazine form and contains 28 pages. The cover decoration shows a typical Isthmian scene with palm trees and a native hut. The features include, beside special articles, poems and editorial comment, departments devoted to athletics, school work and a humorous page. The number is illustrated with photographs and original drawings. The staff of *The Zonian* consists of Miss Maria Elise Johnson, class '11, editor-in-chief; Albert Smith, class '13, business manager; Franklin Johnson, class '12, athletics, Carl Naylor, class '12, circulation, and the class editors, Marguerite Stevens, class '11, Katherine Francis, class '12, and Mildred Davis, class '13.

Marathon Race at Ancon.

A Marathon race was held at the Ancon baseball park on Sunday afternoon, July 10, under the management of J. W. Higgins. A heavy rain fell the entire time and the attendance was small. The race was over a cinder course, and the distance to be covered was 82 laps, or fifteen miles and a fraction. The contest resulted as follows: Ed. Silvev of Ancon, first, time 1.52:2; H. McKeown of Balboa, second; J. H. Dowell, third; A. A. Simka, fourth; W. H. Howe, fifth. There were five other entries, but the contestants failed to finish. The winner received a gold medal, $100 in cash, and several articles of merchandise; the holder of second place was given $50 in cash and a free trip to the Boquete country; third and fourth men, small cash prizes and articles of merchandise, and the fifth man, goods contributed by Panama merchants. The judges of the event were F. G. Calvert, Fred A. Feld, and C. C. Jackson.

Crusade Against Flies in Colon.

A decree making it a misdemeanor for street vendors and others to expose for sale confectionery, pastry, fruits and other articles that tend to draw flies, without first covering them with glass or wire of small mesh, has been approved by Governor Rafael Neira A., of the province of Colon. Violators of the decree will be arrested upon complaint of the sanitary authorities, police agents or others, and if found guilty by the proper judicial authority, will be punished by a fine. The decree became effective on July, 8, fifteen days after its promulgation.

Steam Shovel and Dredge Men.

Local No. 19, I. B. of S. S. and D. M., will hold its regular meeting on Sunday, July 17, at 2.30 p. m., in the Commission lodge hall at Empire. All members are requested to be present.

WALTER P. TUDOR,
Secretary and Treasurer.

Order of Isthmian Conductors.

At the meeting of the Order of Isthmian Conductors held at Pedro Miguel on Sunday, July 10, the following officers were elected: Chief conductor, Alma White; junior conductor, W. M. Williams; assistant conductor, E. L. Dikeman; secretary and treasurer, F. H. Anderson; chaplain, W. B. Jordon; inner guard, P. A. McLaughlin; outer guard, S. R. Horton.

PERSONAL.

Maj. Eugene T. Wilson, returned on the United Fruit Company's steamer *Atenas* on Friday, July 1, from his annual leave of absence in the States.

Missing Men.

A letter for Norman C. Pratt, which is stated to be very urgent, is held at the office of the Chairman, Culebra. His address is desired.

Any one having information of Peter MacFarlane, Scotchman, age 29, formerly employed on a tugboat at Colon, but who left the service of the Canal Commission in September, 1908, is requested to communicate with the British Vice-Consul at Colon.

The address is desired of Leon P. McGehee, who, it is believed, came to the Isthmus early in 1908. Any one having knowledge concerning him is requested to communicate with THE CANAL RECORD.

Information is requested regarding the present whereabouts of Mr. Sam Shelato, who was last employed as steam shovel engineer in the Atlantic Division.

A police substation has been established at Monte Lirio on the Panama railroad relocation, with a first-class policeman in charge. It is tributary to the station at Gatun.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Gorgona, C. Z., on Sunday, July 17, 1910, at 6 p. m. The program follows:

1	March—*Vesuvius*	Kaine
2	Selection—*A Trip to Japan*	Klein
3	Waltz—*Sobre Las Olas*	Rosas
4	Intermezzo—*Margarita*	Mills
5	Medley of Popular Songs	Mills
6	Bolero—*Isolina*	Labory
7	*a Wild Cherries*	Snyder
	b Paddy Whack	Lampe
8	Overture—*Lustspiel*	Keler Bela
9	*Flower Girl*	Wenrich
10	March—*Standard Bearer*	Fahrbach

Oliver Kimball, *Acting Musical Director.*

A concert will be given at Empire, on Sunday, July 24.

Married.

ALLEN-FREY—At Empire on Saturday evening, July 3, at the home of the bride's grandparents, the Rev. J. H. and Mrs. Sobey, Cicely Knibb Frey to Guy Allen of North Carolina. The Rev. Mr. Sobey officiated. Canal Zone residence, Empire. After July, Raleigh, N. C.

HELÉ-GARRIDO—On Monday evening, July 11, at the residence of the chaplain, Ancon, Clementina María Garrido, daughter of Señora Rita Diaz v. de Garrido, Panama, to Herbert Helé of Philadelphia. Archdeacon Bryan officiated. Canal Zone residence, Ancon.

Died.

REIMANN—At Ancon Hospital on Friday, July 8 Karl Howe, son of Mr. and Mrs. Richard Reimann of Empire, aged 2 years and 9 months.

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., July 13, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Adams, Roger H.
Allgrin, Martin
Bennett, E. R.
Bradbery, T. J.
Brennan, W. O.
Bromley, Mont
Calvit, S. E.
Cecil, Miss Lura
Clark, Daniel A.
Coombs, R. L.
Emery, Paul
Engessen, C. (2d class)
Falkner, W. H. (2d class)
Ferguson, Fred P.
Fraser, Howard
Garcia, J. Del
Hobart, F. A.
Kemp, Michael A.
Lacy., R. A.
Madison, Tom C.
Rudd, M. A. (2 pkgs.)
Stevens, George H. (3)
Sugrue, J. D.
Whelan, Joseph
Wilson, K. E.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

The entertainment given by Mr. Steventon on Friday evening, July 1, at the clubhouse was so much enjoyed, that a second entertainment will be given on Wednesday evening, July 13.

The bowling alleys will be supervised hereafter by a committee which has adopted the following rules: (*a*) Only soft soled shoes will be allowed on the alleys. (*b*) Passing at the foul line expressly prohibited. (*c*) Bounding balls on the alleys will not be allowed. One member of this committee will be in charge of the alleys each evening.

A new punching bag, and new gymnasium supplies have arrived. It is the desire that the activities of the gymnasium be resumed by July 18.

EMPIRE.

A ragtime bowling tournament will begin July 18.

The program at the meeting of the literary and debating society last Friday night, was as follows:

1—Business meeting. 2—Reading by Mr. Mark Hall. 3—Debate: "Resolved that U. S. Senators should be elected by direct vote." Affirmative, Messrs. McLean and Ergenzinger. Negative, Messrs. Harlan and Pearson. Won by the negative. Judges—Messrs, Cash, Zacharias and Nicodemus. 4—Parliamentary quiz led by Felix S. Porter.

An important meeting of the membership committee was held on Tuesday evening. The outlook is very encouraging. During the first week of July, 25 men renewed or joined.

The pool match between DePoorter of Gatun and Saffitt of Paraiso has been postponed until the 16th.

The Gorgona minstrels will give their entertainment at the clubhouse on the night of July 15.

GORGONA.

The "Nut Splitters" played volley ball with the "Rivet Busters" last Saturday night, winning two out of three games.

Forty new books have been received and added to the library.

Carl Steventon, the English wizard, will give his second entertainment at Gorgona clubhouse on Thursday night, July 14.

GATUN.

A fast game of basketball was played on the local alleys on Saturday night, the 9th, before a large audience. Score—Empire, 29; Gatun, 24.

Thirteen new members have been added to the list so far this month.

E. C. Soule has been appointed office assistant at the clubhouse.

The monthly "smoker" will be held on Friday evening of this week, commencing at 7.30 o'clock. The P. R. R. orchestra has been engaged to furnish the music. The star attraction will be Carl Steventon, the English wizard, C. Guerard of Camp Elliott will give several impersonations and recitations. Every man in Gatun, whether a member or not, is cordially invited to attend.

DePoorter plays Hughes on Thursday night at pool, conceding 50 balls out of 150.

CRISTOBAL.

The local pool tournament is drawing to a close and considerable rivalry is manifested between the leaders.

The chess club continues playing regularly.

The boys' gymnasium classes are meeting regularly, and yet the boys find it difficult to pass their time away since school has closed, and the rains set in.

The discussion club met and enjoyed the discussion lead by Mr. Storla on the subject "The Treatment of Strangers," last Thursday night. The club will be led by Mr. Kromer on Thursday night of this week, the subject being "Here and There."

The Gorgona minstrels appeared before the people of Cristobal in a very creditable performance on Tuesday night.

The basketball teams will be organized for match games with other associations.

Result of the Fourth of July Athletic Events.

CRISTOBAL.

Shot put—First, J. H. Weller, P. R. R., 38 feet 5½ inches; second, F. V. Schneider, Gatun, 36 feet 3 inches; third, H. B. Smith, Gatun, 33 feet 4 inches.

Pole vault—First, W. P. Brown, Gatun, 9 feet; second, J. G. Decora, P. R. R., 8 feet 8 inches; third, G. H. Durar, P. R. R., 7 feet.

100 yards low hurdles—First, W. P. Brown, Gatun; second, John Hoban, Cristobal drydock; third, William A. Whittles.

Boys' 50-yard—First, Arthur Sims, Cristobal, second, E. Atkins, Gatun; third, F. Whiston, San Pablo.

100-yard dash—First, W. P. Brown, Gatun; second, A. C. Harrigan, P. R. R.; third, F. W. Hoff, P. R. R.

Running high jump—First, W. P. Brown, Gatun, 5 feet 3 inches; second, A. C. Harrigan, P. R. R., 5 feet 2 inches; third, R. W. Patterson, P. R. R., 5 feet 1 inch.

Hammer throw—First, Harry Cooling, Porto Bello, 126 feet 3 inches; second, J. E. Carpenter, Porto Bello, 120 feet 6 inches; third, Mr. Molloy, Corozal, 93 feet.

440-yard dash—First, D. T. Edwards, Jr., P. R. R., second, Edmund Koperske, Gorgona; third, W. O. Sibert, Gatun.

Boys' relay—First, Cristobal Y. M. C. A.; second, Gatun.

Running broad jump—First, W. P. Brown, Gatun, 18 feet 6 inches; second, A. C. Harrigan, P. R. R., 18 feet 2 inches; third, F. W. Hoff, P. R. R., 17 feet 8 inches.

220-yard dash—First, A. C. Harrigan, P. R. R., second, F. W. Hoff, P. R. R.; third, D. T. Edwards, P. R. R.

One mile run—First, Edmund Koperske, Gorgona; second, A. A. Simka, P. R. R.; third, W. O. Sibert, Gatun.

Relay race—First, P. R. R.; second, Gatun.

Hop-step-and-jump—First, C. E. Pring, P. R. R.; second, W. J. Bartlett, P. R. R.; third, A. C. Harrigan, P. R. R.

Sack race—First, Mr. Brandon; second, Mr. Fellows; third, Mr. Brennan.

Pipe race—First, S. W Parkes; second, T. A. Nixon; third, T E. Fellows.

Three-legged race—First, Weston and Huber; second, Mayhew and Falkner; third, (names not reported).

Tug-of-war—First, U. S. Marines, Camp Elliott, on a forfeit; second, Chiriqui Tribe of Red Men failed to compete; third, U. S. S. *Dubuque*, failed to compete.

REGULAR EVENTS—STANDING BY CLUBS.

	P. R. R.	Gatun.	Porto Bello.	Cristobal Drydock.	Gorgona.	Others.	Corozal.
Shot put	5	4	....	....	....	....	....
Pole vault	4	5	....	....	....	....	....
Low hurdles	....	5	....	3	....	1	....
100-yard dash	4	5	....	....	....	....	....
Running high jump	4	5	....	....	....	....	1
Hammer throw	....	....	8	....	....	....	....
Running broad jump	4	5	....	....	....	....	....
220-yard dash	9	....	....	....	....	....	....
440-yard dash	5	1	...	....	3	....	....
Mile run	3	1	....	....	5	....	
Relay race	5	3	....	....	....	....	....
Hop-step-and-jump	9	....	....	....	....	....	....
Total	52	34	8	3	8	1	1

A Letter to Transportation Men.

THE HOME FOR AGED AND DISABLED RAILROAD EMPLOYES OF AMERICA.
HIGHLAND PARK, ILL.,
223 Railway Exchange, Chicago, June 25, 1910.

Mr. J. C. Barnett, Las Cascadas, C. Z., Isthmus of Panama:

Dear sir and brother: At a meeting of the Board of Trustees of The Home for Aged and Disabled Railroad Employes of America, held at Chicago, Ill., Wednesday, June 16, 1910, the undersigned was unanimously instructed by the board to write to you in your capacity as general chairman of the arrangement committee in charge of the ball given for the benefit of the building fund of the home by members of the Brotherhood of Locomotive Engineers, Brotherhood of Locomotive Firemen and Enginemen, Order of Railway Conductors and Brotherhood of Railroad Trainmen, at the Hotel Tivoli, Ancon, C. Z., April 30, 1910, and on behalf of the Board of Trustees and the home society to thank you and the other members of the arrangement committee listed on your program for the efforts in this worthy purpose which brought such splendid results.

The board is deeply sensible of the spirit of loyalty, cooperation and benevolence which imbued the members of our brotherhoods on the Isthmus and impelled them to so effectively join together in a movement for the benefit of their less fortunate brothers whose care devolves upon our home. The handsome sum which you realized, $2,880.50, came to us at a critical time, a day upon which we had obligations to meet that without the assistance your donation gave us, would no doubt have caused us some embarrassment.

About a year ago, when the home society faced the stern necessity for proper accommodations for its wards to replace the dilapidated buildings which had formed a makeshift shelter for many years, it was with some trepidation they viewed the prospect. With exceedingly small capital to start with, the society set to work, looking confidently to the loyalty and generosity of the railroad men of our country to see them through. That their confidence was well founded is exemplified not alone, but in particular by what our brothers on the Isthmus have done for us. During the construction of the new buildings, we have weathered many financial storms but always in the nick of time some organization, some friend, some member or true band of members has come to our aid financially and eased our path.

The board feels a deep debt of gratitude to the Panama men, their good women and interested friends. If any of them could see the home as it is, and we hope all of them may sooner or later have that opportunity, they would, we are sure, feel repaid for the immense amount of planning and detail work which must have devolved upon them to carry out such a successful affair for the benefit of the institution.

We again say thank you, and hope you will find opportunity in your daily association with those who participated in the ball to express to them the appreciation which the home society feels.

Sincerely and fraternally,
For the Board of Trustees:
P. H. MORRISSEY, *Trustee.*

Rainfall, July 1 to 9, 1910, Inclusive.

(MIDNIGHT TO MIDNIGHT.)

STATIONS	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	.79	9	2.56
Balboa	.51	5	*1.91
Miraflores	.96	4	2.39
Pedro Miguel	.74	9	2.23
Rio Grande	1.05	6	4.02
Central Section—			
Culebra	1.46	6	4.92
Camacho	1.14	6	3.08
Empire	.87	4	3.32
Gamboa	1.54	4	8.32
Alhajuela	2 21	3	6.94
El Vigia	1.82	3	4.38
Gorgona	2.20	3	6.41
San Pablo	1.26	4	6 16
Tabernilla	1.07	4	5 97
Bohio	2.74	9	5.63
Atlantic Section—			
Gatun	3.44	9	7.38
Brazos Brook	1.33	3	7.58
Cristobal	2.97	9	7.46

*To 5 p. m. 9th.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, July 9, 1910.

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Lake.)
Height of low water above sea-level, ft..	125	92	46	0	0
Maximum height ab. mean sea-level, feet:					
Sunday, July 3	130.4	96.4	52.2	18.6	17.5
Monday, July 4	131.0	96.6	51.6	18.4	17.5
Tuesday, July 5	130.7	96.2	51.6	19.0	18.0
Wed'esday, July 6	130.6	96.4	51.3	19.2	18.2
Thursday, July 7	129.6	95.7	49.6	19.0	18.2
Friday, July 8	128.5	95.4	50.0	18.5	18.1
Saturday, July 9	129.0	95.2	51.0	19.0	18.0

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending July 20, 1910, (75th meridian time):

DATE.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	A. M.	P. M.	P. M.
July 14	....	3.08	9.18	3.42	9.44
July 15	....	4.00	10.07	4.36	10.42
July 16	... ...	4.53	11.00	5.33	11.43
July 17	....	5.50	11.55	6.28	....
			P. M.		
July 18	12.45	6.47	12.50	7.20	....
July 19	1.40	7.38	1.42	8.08	....
July 20	2.25	8.27	2.28	8.52	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

FOUND—Knights of Pythias watch charm on July 4. Owner can have same by calling on or addressing F. L. Cornish, room 18, house No. 111, Ancon, C. Z.

OFFICIAL CIRCULARS.

Standard Lubricants for Canal Use.

CIRCULAR NO. 314-B:

CULEBRA, C. Z., June 22, 1910.

Reports of the Committee on Lubricants have shown that the purchase and use of lubricants by the Commission can be confined to the list given below, which is, therefore, adopted as a standard for the guidance of all concerned, and lubricants will be used only for the purposes indicated. All of these lubricants have been or will be coveied for the next fiscal year by annual contracts. Requisitions on the Quartermaster's Department shall hereafter specify the lubricant desired by either tne I. C. C. number given below or by the name, or by both. No other name shall be used in designating the luhricant desired and no lubricant will be requisitioned for unless it is in the following list until after application for authority to procure same has been first submitted to and approved by me, showing the necessity therefor. Under the annual contract for the next fiscal year a large saving can be effected by accepting deliveries in metal drums having a capacity of about one barrel each. Directions have already been issued to equip all distributing points with metal containers, having a capacity of at least one month's supply, should be carried out as soon as practicable, and appliances should be provided by which oil can be conveniently transferred from the drums to the monthly supply containers without injury to the drums and without loss of oil. All monthly containers should be plainly marked with the name of the oil and the I. C. C. number. Metal drums have to be returned to the contractor in good condition.

Oil in cans should be drawn from store for use only where it is not practicable or economical to draw it in drums. After July 1, monthly containers shall invariably be filled with oil drawn in drums and not with oil drawn from store in cans. The prices given below indicate the actual cost to the Commission for oil delivered on annual contract at Cristobal and show approximately the saving that will result by using drums. These prices are not intended to supersede the prices given in the price book of the Quartermaster's Department and should not be used in material accounts:

I.C.C. No.		Cost per Gallon In Drums	In Cans	In Bbls.
1.	Valve Oil. For the internal lubrication of steam cylinders on all classes of equipment.	.20	.27	
2.	Air Compressor Cylinder Oil. For the internal lubrication of air cylinders of all compressors, and for pneumatic hammers and drills.	. .15	.22	
3.	Marine Engine Oil. For marine engines, but not in crank cases where it would be agitated and mixed with water, as being a compound oil it would emulsify if so used; also for the block bearings of suction dredges and relay pumps.	.28	.35	
4.	Stationary Engine Oil. For stationary engines, electric dynamos and motors, wood and metal working machinery, and for the general lubrication of machinery; also for dies of bolt cutters, turret machines, etc., except where the use of lard oil is permitted. (See note under lubricant No. 11.)	135	.205	
5.	Locomotive Engine Oil. For all locomotives, running gears of all locomotive cranes, deck machinery of dredges (except engines), crank cases of Rand air compressors, and for cold saws in machine shops.	.115	.185	
6.	Turbine Engine Oil. For all step bearings of turbines in the Miraflores and Gatun Power Plants only.	......		.11
7.	Gas Engine Oil. For the cylinders of internal combustion engines.	......	.305	
8.	Westinghouse Crank Case Oil. For use in the crank cases of Westinghouse vertical compound engines at Balboa Plant, only.	......		.20
9.	Car Oil. For the journals of all cars, passenger coaches, locomotive tenders, and rolling stock generally; for steam shovel bearings when not equipped with grease cups; for tripod drills, switches, and steam shovel chains.	105	.175	
10.	Transformer Oil. For use by the electrical divisions in oil cooled transformers, only.	.28	......	

I.C.C. No.			Cost per Gallon In Cans	In Bbls.
11.	Lard Oil. For hand torches for illuminating purposes on marine equipment only. On land, for shop use on pipe threading machines; and it may be substituted for Stationary Engine Oil, I. C. C. No. 4, when necessary on dies of turret machines and on bolt cutters, when working refined iron or tough machinery steel. The use of this oil should be minimized to the greatest possible extent on account of its high cost.	......	.80	
12.	Ammonia Cylinder Oil. For the internal lubrication of cylinders of ammonia compressors, only.	......		.35

I. C. C. STANDARD LUBRICATING GREASES.

			Cost per Pound In Bbls.	Cost per Pound In Cans
20.	Nonliquid Oil. This is a material of the consistency of vaseline for the lubrication of sheaves of carriages on the Lidgerwood cableways at Gatun, for air brake cylinders and triple valves, and for such pneumatic drills and motors as may be equipped for the use of grease.	......	.075	
21.	Cup Grease. For all classes of lubrication where grease is used in compression cups. (This has heretofore been ordered and known as "Yellow Lubricating Grease." Its higher cost as compared with Gear Grease, I. C. C. No. 22, should be noted.)	......		.0625
22.	Gear Grease. For all classes of lubrication requiring grease for which compression cups are not adapted. This includes the center and side bearings of cars, cranes, steam shovels; also wire cables, both standing and running, etc. This has heretofore been ordered and known as "Black Lubricating Grease."	......		.025
23.	Cable Grease. For the "interlocked-wire" track cables of the Gatun cableways, exclusively.	......		.05

I. C. C. STANDARD ILLUMINATING OILS.

30.	Signal Oil. For use in railroad lanterns only. (Kerosene, I. C. C. No. 31, may be substituted when signal oil is not available.)	......	.37
31.	Kerosene Oil. For use in locomotive headlights, and similar lamps, ordinary lanterns, and for cleaning purposes.	......	.1235

Standard hand oilers and oil cans should be used as provided by Circular No. 338.

A copy of this circular shall be posted in all stationary plants, shops, engine houses, storehouses, and on all marine equipment.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Laborers Handling Concrete Materials.

CULEBRA, C. Z., July 1, 1910.

CIRCULAR NO. 229-J:

Effective this date, the following designations and maximum rates of pay are approved, to cover silver employes engaged in handling concrete materials, and in mixing, transporting and placing concrete. All other employes engaged thereon (not including European laborers) shall be rated "Laborers—A" at 10 cents an hour.

Cementmen................13 and 16 cents an hour.
For men in the cement sheds, in the tunnels, in the mixer buildings engaged in unloading cement cars, and in the cement rooms of the berm cranes, with the understanding that employes in the cement rooms of the berm cranes only are eligible to the 16 cent rate.

Concretemen......................13 cents an hour.
For men placing concrete in forms.

Bucketmen........................13 cents an hour.
For men employed in hooking on concrete buckets.

Trainmen......13 cents an hour and $30.00 a month.
To cover, in addition to present approved positions, men employed on automatic and industrial cars.

Cement Finishers....13, 16, 20 and 25 cents an hour.
For men employed in spading back wet concrete, and in finishing concrete surfaces, with the understanding that the 13 and 16 cent rates only are applicable to men engaged in spading back wet concrete, and that the 25 cent rate is applicable only to men engaged in finishing concrete surfaces for especially high-grade work.

Masons..................16, 20 and 25 cents an hour.

Masons' Helpers..................13 cents an hour.
The designations "Mason" and "Masons' Helper" shall hereafter be applied only to employes engaged in laying brick or stone masonry.

GEO. W. GOETHALS, *Chairman.*

Standard Oil Containers.

CULEBRA, C. Z., July 9, 1910.

CIRCULAR NO. 338:

Hereafter, the following hand oilers and oil containers only shall be used, and shall be considered the I. C. C. standard. Any other hand oilers or oil containers that may be in store, or on order may be used, however, until the supply is exhausted. All replenishment of same shall be made in accordance with the following list:

No.		CAPACITY.
40.	24-inch Spring Hand Oiler (Standard Locomotive Type). For use on locomotives, steam shovels, dredges, cranes and cableways.	2 pints
41.	Locomotive Tallow Pot. For use on locomotives, steam shovels, stationary and portable engines and pumps, at power plants, for filling lubricators, etc.	2 pints
42.	Stationary Engine Oiler. For general use around power plants, on air compressors, marine engines, etc.	2 pints
43.	Squirt Can. For use at pumping and power plants, on stationary and portable engines, and machinery in general.	1 pint
44.	Oil Can with Screw Cover and Spout. For use on locomotives and at small plants.	1 gallon
45.	Oil Can with Screw Cover and Spout. For use on locomotives and at small plants where a one-gallon can is not suitable.	2 gallons
46.	Oil Can with Screw Cover. For use on steam shovels.	5 gallons

All hand oilers and oil containers shall be plainly marked with the I. C. C. standard number and with the name of the oil they contain. They shall be kept clean and in good repair. They may be specified on store requisition by either number or by name.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Change in Schedule.

PANAMA RAILROAD COMPANY,
OFFICE OF MASTER OF TRANSPORTATION.
COLON, R. P., July 7, 1910.

GENERAL ORDER NO. 1:

All Concerned—On and after July 20, none of our passenger trains will stop at Lion Hill or Ahorca Lagarto.

H. C. OWEN,
Acting Master of Transportation.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning July 9:

FRESH MEATS.

	Price.
Mutton—Stewing, per pound	7
Shoulder, neck trimmed off, (4 lbs. and over), per pound	10
Entire forequarters (not trimmed) 10 pounds and over, per pound	9
Legs, (8 to 10 pounds), per pound	19
Cutlets, per pound	20
Shortcut chops, per pound	22
Lamb—Stewing, per pound	7
Entire forequarters, neck trimmed off, per pound	10
Legs (5 to 8 pounds), per pound	24
Chops, per pound	26
Cutlets, per pound	26
Veal—Stewing, per pound	10
Shoulder for roasting (not under 4 pounds), per pound	15
Loin for roasting, per pound	19
Chops, per pound	22
Cutlets, per pound	26
Pork cuts, per pound	22
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	9
Corned, per pound	12, 14, 16
Chuck roast, per pound	13
Pot roast, per pound	15
Rib roast, second cut (not under 3½ pounds), per pound	18
Rib-roast, first cut (not under 3 pounds), per pound	20
Sirloin roast, per pound	21
Rump roast, per pound	21
Porterhouse roast, per pound	21
Steak, Chuck, per pound	14
Round, per pound	15
Rib, per pound	20
Sirloin, per pound	21
Porterhouse, per pound	21
Rump, per pound	21
Tenderloin, per pound	24

MISCELLANEOUS.

Livers—Beef, per pound	10
Calf, each	60
Half, each	30
Sausage—Pork, per pound	17
Bologna, per pound	14
Frankfurter, per pound	14
Leberwurst, per pound	14
Sweet bread—Veal, per pound	1.20
Beef, per pound	25
Eggs, fresh, dozen	28
Cod, fresh, per pound	7
Bluefish, fresh, per pound	14
Halibut, fresh, per pound	20
Shad, fresh, each	75
Shad roes, fresh, pair	40

POULTRY AND GAME.

Chickens—Fancy Roasting, large, each	1.50
medium, each	1.30
Fowls, each	70, 82, 93, 1.04, 1.15
Ducks, large, each	1.50
medium, each	1.30
Broilers, each	75
Turkeys, per pound	30
Squabs, each	35
Capons, each	2.50
Pheasants, each	70, 1.00
Partridges, each	50
Grouse, each	85

CURED AND PICKLED MEATS.

Ham—English York Cut, per pound	30
German, Westphalia, per pound	36
Sugar cured, per pound	21
Sugar cured, sliced, per pound	25
Half, for boiling, per pound	22
Boiled, per pound	†32
Hocks, per pound	‡8
Bacon—Breakfast, whole piece, per pound	†30
Breakfast, sliced, per pound	†31
Beef, salt, family, per pound	12
Pork, salt, family, per pound	18
Ox tongues, each	80
Pigs' feet, per pound	10
tongues, per pound	16
Mutton, mess, per pound	7

DAIRY PRODUCTS.

Butter—Creamery special, per pound	40
Cheese—Roquefort, per pound	38
Philadelphia Cream, cake	10
Young America, per pound	22
Swiss, per pound	26
Edam, each	1.00
Neufchatel, each	6
Gouda, per pound	34
Parmesan, per pound	35
Milk, Briarcliff, bottle	**25

VEGETABLES AND FRUITS.

	Price.
Celery, per head	†12
Lettuce, per head	8, 12, 16
Cucumbers, per pound	5
Potatoes, white, old, per pound	3½
white, new, per pound	3½
sweet, per pound	2½
Yams, per pound	3½
Onions, per pound	5
Tomatoes, per pound	8
Turnips, per pound	*3
Carrots, per pound	*4
Beets, per pound	*5
Parsnips, per pound	3
Cabbage, new, per pound	3½
Rhubarb, per pound	5
Green Corn, dozen	*36
Cauliflower, per pound	7
Lemons, dozen	24
Oranges, California, dozen	36
Cherries, per pound	14
Plums, per pound	14
Watermelons, each	35
Cantaloupes, each	10
Peaches, per pound	10
Limes, per 100	80
Oranges, dozen	12
Grapefruit, each	4
Pineapples, each	18

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

Supplies for Canal Work.

The following steamers, with supplies for the Isthmian Canal Commission, arrived at the ports of Cristobal and Colon during the week ending July 9:

Sibiria, July 5, from New York, with 237 kegs rivets, 120 barrels alum and 8 cases asbestos packing for stock.

Allianca, July 7, from New York, with 39 pieces machinery, 6 crates machinery and 16 bundles machinery for Atlantic Division; 7 cases machinery, 35 bundles iron, 16 cases electrical supplies and 18 barrels glass globes for Pacific Division; 5 barrels wood preserver, 39 bundles castings, 58 pieces castings, 3 hogsheads fire clay, 33 barrels fire clay and 7 barrels emery wheels for Mechanical Division; 43 cases and packages miscellaneous supplies for Sanitary Department; 48 pieces steel, 37 cases harness oil, 21 barrels glassware, 212 bundles plain wire, 25 kegs boat spikes, 10 cases sheet brass, 16 cases electrical supplies, 65 kegs mule shoes, 26 kegs horse shoes, 30 reels wire, 22 cases rubber hose, 190 kegs rivets, 100 cases sal soda, 64 cases insulated wire, 219 cases iron bolts and nuts, 500 garbage cans, 2,000 cases refined petroleum, 178 bundles galvanized iron, 1,500 kegs white lead and 84 crates coal baskets for stock; and a miscellaneous cargo, the whole consisting of 6,262 packages, weighing, 484 tons.

Atenas July 7, from New Orleans, with 334 dump car parts for Cristobal shops (for erection); 200 bundles moulding for wires, 50 bundles-cross arm braces, 42 cases electrical material, 100 switch stands, 12 crates range parts, 269 pieces piling and 665 hewn pine ties for stock.

Astoria, July 8, from New York with 19,800 barrels cement for Atlantic Division; 48,000 bags cement for Pacific Division.

Almirante, July 8, from New York, with 170 coils Manila rope, 800 cases linseed oil, 121 cases candles and 57 bales suction hose for stock.

Proposals for 20,000 Pounds Charcoal.

Sealed bids will be received at the office of the Depot Quartermaster, Mount Hope, C. Z., until 2 p. m., July 16, 1910, when they will be publicly opened, for 20,000 pounds of charcoal, to be made from mangle wood, or equal, and to be first-class in every respect, subject to inspection. Delivery must be made in lots of 10,000 pounds each, first lot to be delivered within twenty days after award is made. Delivery will be accepted free on board cars at any point on the Panama railroad, and charcoal will be weighed upon receipt at Mount Hope Depot. Material must be delivered in bags of which an equal number will be returned to the contractor. The right is reserved to reject any or all bids. Bids must be marked "Proposal for furnishing charcoal," and addressed to

C. NIXON, *Purchasing Agent on the Isthmus.*

Sale of Animals at Public Auction.

CULEBRA, C. Z., June 25, 1910,

There will be sold at public auction, by the District Quartermaster at Ancon, Canal Zone, at the old corral, at 2 p. m., Saturday, July 16, 1910, to the highest bidder for cash, the following Isthmian Canal Commission property: Two (2) mules, American; three (3) horses, American; one (1) pony, native. The Government reserves the right to accept or reject any or all bids. For further information apply to the District Quartermaster, Ancon, Canal Zone.

C. A. DEVOL, *Chief Quartermaster*

The following vessels arrived at, or departed from, the port of Balboa during the week ending July 9:

Arrivals—July 3, U. S. S. *Vicksburg*, from Corinto (At anchor in bay); July 7, *City of Sydney*, from San Francisco; July 9, *Peru*, from south ports.

Departures—July 2, *Limari*, for south ports; July 5, *San Juan*, for San Francisco; July 6, *Chatham*, for south ports, and *Quito*, for intermediate ports; July 7, *Ecuador*, for Guayaquil.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Advance	P. R. R.	Tuesday	July 12
Ancon	P. R. R.	Wednesday	July 13
Panama	P. R. R.	Monday	July 18
Allianca	P. R. R.	Saturday	July 23
Colon	P. R. R.	Friday	July 29
Advance	P. R. R.	Thursday	Aug. 4
Panama	P. R. R.	Thursday	Aug. 11
Allianca	P. R. R.	Wednesday	Aug. 17
Colon	P. R. R.	Tuesday	Aug. 23
Advance	P. R. R.	Monday	Aug. 29
Panama	P. R. R.	Saturday	Sept. 3
Allianca	P. R. R.	Saturday	Sept. 10

CRISTOBAL TO NEW YORK

Colon	P. R. R.	Tuesday	July 19
Advance	P. R. R.	Saturday	July 23
Panama	P. R. R.	Saturday	July 30
Allianca	P. R. R.	Thursday	Aug. 4
Colon	P. R. R.	Wednesday	Aug. 10
Advance	P. R. R.	Tuesday	Aug. 16
Panama	P. R. R.	Tuesday	Aug. 23
Allianca	P. R. R.	Monday	Aug. 29

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible, leaving Cristobal on or about the 4th and 25th of each month. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

NEW YORK TO COLON.

Santa Marta	U. F. C.	Thursday	July 7
Clyde	R.-M.	Saturday	July 9
Metapan	U. F. C.	Thursday	July 14
Prinz Joachim	H.-A.	Saturday	July 16
Zacapa	U. F. C.	Thursday	July 21
Atrato	R.-M.	Saturday	July 23
Almirante	U. F. C.	Thursday	July 28
Prinz Aug. Wilhelm	H.-A.	Saturday	July 30
Santa Marta	U. F. C.	Thursday	Aug. 4
Tagus	R.-M.	Saturday	Aug. 6
Metapan	U. F. C.	Thursday	Aug. 11
Prinz Joachim	H.-A.	Saturday	Aug. 13
Zacapa	U. F. C.	Thursday	Aug. 18
Oruba	R.-M.	Saturday	Aug. 20
Almirante	U. F. C.	Thursday	Aug. 25
Prinz Aug. Wilhelm	H.-A.	Saturday	Aug. 27

COLON TO NEW YORK

Atrato	R.-M.	Wednesday	July 13
Almirante	U. F. C.	Friday	July 15
Prinz Aug. Wilhelm	H.-A.	Tuesday	July 19
Santa Marta	U. F. C.	Friday	July 22
Tagus	R.-M.	Wednesday	July 27
Metapan	U. F. C.	Friday	July 29
Prinz Joachim	H.-A.	Tuesday	Aug. 2
Zacapa	U. F. C.	Friday	Aug. 5
Oruba	R.-M.	Wednesday	Aug. 10
Almirante	U. F. C.	Friday	Aug. 12
Prinz Aug. Wilhelm	H.-A.	Tuesday	Aug. 16
Santa Marta	U. F. C.	Friday	Aug. 19
Magdalena	R.-M.	Wednesday	Aug. 24
Metapan	U. F. C.	Friday	Aug. 26
Prinz Joachim	H.-A.	Tuesday	Aug. 30

NEW ORLEANS TO COLON.

Turrialba	U.F.C.	Saturday	July 9
Abangarez	U.F.C.	Saturday	July 16
Atenas	U.F.C.	Saturday	July 23
Turrialba	U.F.C.	Saturday	July 30
Abangarez	U.F.C.	Saturday	Aug. 6
Atenas	U.F.C.	Saturday	Aug. 13

COLON TO NEW ORLEANS.

Atenas	U.F.C.	Thursday	July 14
Turrialba	U.F.C.	Thursday	July 21
Abangarez	U.F.C.	Thursday	July 28
Atenas	U.F.C.	Thursday	Aug. 4
Turrialba	U.F.C.	Thursday	Aug. 11
Abangarez	U.F.C.	Thursday	Aug. 18

COLON TO BARBADOS, CALLING AT TRINIDAD.

Clyde	R.-M.	Monday	July 18

The next sailing of the Leyland Line will be as follows: *Meltonian*, July 23, for Tampa, via Kingston, Ja.

Hamburg-American steamers leave for New York at 10 a. m., and for Port Limon every Tuesday or Wednesday.

Royal Mail steamers leave for New York early in the morning and passengers should be on board the night before.

United Fruit Company ships for New Orleans leave on Thursday at 3 p. m., and for New York on Friday at 10 a. m.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, JULY 20, 1910. No. 47.

The Canal Record

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Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Chairman's Monthly Report.

The report of the Chairman of the Isthmian Canal Commission for the month of June is published in full in other columns of this issue of THE CANAL RECORD. It gives a detailed account of the progress of Canal work in all departments and divisions.

Track Layout on Gatun Dam.

Since the completion of the permanent iron bridge over the Spillway of Gatun Dam excavation has been in progress for tracks to connect both toes of the west section with the east section of the Dam, and thereby with the main line of the Panama railroad, in order that trains with spoil and supplies may reach the west section at any time, regardless of the condition of the other bridges. The other bridges referred to are two trestles that span the Spillway, one on the south or upstream toe, the other on the north toe. These bridges, although substantial enough for heavy traffic, are subject to being carried away in a heavy flood, when trees and timber borne down the river are caught in the bents of the trestles, retarding the flow of water. The track connecting the north toe of both sections of the Dam is already in use, and the tracks that will connect both sections of the south toe are nearing completion. Grades and curves in these tracks are made easy so that the trains may be hauled by one locomotive, instead of using a pusher, as is necessary at the present time on some of the grades.

Borings in Balboa Ship Basin.

Borings have been made in squares of 500 feet, and to a depth of 40 feet below mean sea level, over the area of the proposed inner harbor at Balboa. The greater part of the ground is low and swampy, in general, not exceeding eight feet above mean sea level at low tide, but in one section there is a patch of rock rising to 40 feet above mean sea level, the highest point in the entire area. The borings also disclosed the bed of a stream that in former times pursued a tortuous course across the swamp. At a later period, its channel appears to have become choked, and is now covered with a heavy deposit of mud. It is not expected that much work will be accomplished within the harbor area during the present fiscal year, with the possible exception of dredging out the lower end of the mud spit, which extends into the channel, about opposite the Balboa sand dock. This excavation will serve to widen the channel at this point, thus affording additional room for the navigation of sand barges and other vessels.

Deepening Channel at Docks in Cristobal and Colon.

An estimate has been prepared and approved in part for deepening the channel in front of the Cristobal docks, Cristobal coal slip, and between Panama railroad piers Nos. 2 and 3 at Colon. The approved projects are as follows:

1. Removal of 26,000 cubic yards of material in front of dock No. 11, Cristobal; deepening the channel from 33 to 35 feet and widening it to about 50 feet.
2. Removal of 67.998 cubic yards of material in front of dock No. 14, Cristobal, deepening the channel to 28 feet.
3. Removal of 20,000 cubic yards of material in front of the coal slip, near the marine shops, Cristobal, deepening the berthage alongside to 28 feet.
4. Removal of 13,000 cubic yards of material from the slip between Panama railroad piers Nos. 2 and 3, Colon, and deepening it to 28 feet.

The estimate also provides for the removal of 80,885 cubic yards of excavation from in front of dock No. 12, and of 104,400 cubic yards from in front of dock No. 13, deepening the channel in front of both docks to 28 feet, but these projects are still under consideration.

The dipper dredge *Chagres* was set to work on June 27 deepening and widening the channel in front of dock No. 11, but on July 13 it was transferred to the slip between Panama railroad piers Nos. 2 and 3. As soon as the dredging there is completed, it will return and continue the work at dock No. 11.

Telephone Line to Toro Point.

A telephone line will be built to Toro Point, connecting the breakwater camp with the Panama Railroad Company's system. Two circuits, each consisting of two No. 10 copper wires, will be strung on existing poles from the Gatun exchange to the west bank of the French canal at Mindi, where they will cross the channel on the present 65-foot standards. From there an entirely new line is to be constructed to the breakwater camp, a distance of about seven miles. The poles will be of 2-inch galvanized iron pipe, standing 15 feet out of the ground, equipped with one 6-pin 6-foot cross-arm, which will provide space for one additional circuit in case it is required at some time in the future. There will be no switchboard at Toro Point, as only six telephones are to be installed, and the wires will terminate in a switch box, which can be looked after by a boy attendant. By means of the switch box, the wires can be used interchangeably, that is, calls can be transferred to one wire when the other is out of order, and vice versa. The Toro Point service will consist of two party lines connected with the Gatun exchange, and all calls will be handled through the switchboard at the latter point, with the exception of calls from the office of the Resident Engineer on dock No. 13, to which direct connection will be provided.

Stranding of a Cable at Gatun Cableways.

One of the two carrying cables in the north duplex cableway at Gatun Locks material docks stranded on July 11, and a new cable has been substituted. The cable is 2¼ inches in diameter and is built up of steel strands covered with thirty interlocking strands making a surface absolutely smooth. Four of these interlocking strands gave way at about the middle of the cable, where there was no apparent wear and where the usage to which the the cables are subjected is not the hardest. The contractors had guaranteed the cable to last 60,000 trips of the carriage, and it has actually lasted longer than was guaranteed, having been in service over a year and having unloaded over 100,000 cubic yards of rock.

Dredges at Gatun Dam.

The record of 197,000 cubic yards in June, made by the 20-inch suction dredge *No. 83*, pumping material into Gatun Dam, is the best performance by a suction dredge on the Canal work. This dredge was working north of the Dam pumping into the western section of the hydraulic fill from the old West Diversion channel, a distance of from 1,700 to 2,000 feet and with an unaided lift of 25 feet. All the conditions were favorable for a good record, because *No. 83* had just come from the marine shop at Cristobal where it had been given a thorough overhauling, and where such improvements had been made in its apparatus as experience on the hydraulic fill had suggested.

Dredge *No. 82*, which has been pumping into the west section of the Dam on the south side, was withdrawn last week after one year of continuous service and will be given a thorough overhauling. It will be fitted with a new steel spud frame, designed by the Atlantic Division some months ago in keeping with the most recent practice in dredge building, similar to the frame on the new suction dredge *No. 86*. The present arrangement on *No. 82* for raising the spuds is a cable fastened to the bottom of each spud and run over a series of blocks to a windlass on deck, the whole mechanism being either under water or low on the deck. The shive by which the cable is attached to the spud is likely to be forced out of position, or the underwater pulleys to

NOTES OF PROGRESS.

(Continued.)

become clogged, and when the cable strands under water it is necessary to work blindly on it, or to raise the spuds by other means than the mechanism designed for that purpose. Not infrequently several hours, or even a day, are lost because of trouble with the spud raisers.

The new arrangement will consist of a steel frame rising about 40 feet above the deck. A cable attached to the top of each spud will run through a block on this frame and thence to a windlass, and by this means the spuds can be raised their full length with every part of the working mechanism in plain sight. The new spud frame has been manufactured at the Cristobal marine shops and is ready to be erected.

A new cutter and a more powerful cutter engine will be put on *No. 82*, and all the machinery will be overhauled and new parts will be substituted where necessary.

No. 86, the suction dredge which began work on July 5, broke a cylinder ring on July 13 and was forced to suspend for a day. A new ring was manufactured over night at the Cristobal marine shops, and the dredge was able to resume work the day after the accident. A complete set of spare parts for this dredge has been ordered from the States.

The Auxiliary Mixers at Gatun Locks.

The part played by the auxiliary mixing plant in the concrete operations at Gatun Locks is evident from the fact that up to the middle of the present month, July 16, it mixed 113,727 cubic yards of concrete, about one-fifth of the total. It began to operate on December 31, 1909 and 346 cubic yards were mixed on that day. Since then its record, compared with that of the main or cableway plant, has been:

	Auxiliary Plant.	Cableway Plant.
January	9,569	43,454
February	13,968	43,702
March	18,078	41,946
April	16,316	44,422
May	20,728	51,120
June	23,362	61,572
July 1-16	11,361	28,746

The auxiliary plant is situated at the south end of the lock site, and consists of two 2-yard cube mixers run by steam engine, and fed with rock and sand by gravity from bins constructed above the mixers in such way that the materials can be dumped into the bins from standard gage 10-yard dump cars. A narrow gage railway running into the south forebay, and one running the entire length of the south and middle locks, serves any portion of the work at which it may be desirable to use concrete, and at present four small locomotives are kept busy hauling the trains. The concrete is carried in buckets to the derricks installed in the forebay to lift the concrete to the forms, and in 5-yard side-dump cars if it is desired to lay the concrete in the floor, as is being done at present in the middle lock.

Concrete Work at Pedro Miguel and Miraflores.

A total of 8,422 cubic yards of concrete was laid in the locks at Pedro Miguel during the week ending July 16, which was the largest amount placed in any one week at this point since the work was started. All four of the berm crane mixers in the construction plant were in operation, and in addition, concrete was supplied by one 2-yard auxiliary mixer. The record for each of the 8-hour working days follows:

	Cubic Yards.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
July 11	1,316	306	....	1,622
July 12	1,272	272	35	1,579
July 13	828	218	....	1,046
July 14	1,224	242	40	1,506
July 15	1,072	50	....	1,122
July 16	1,352	120	75	1,547
Totals	7,064	1,208	150	8,422
Previously reported	....	....	....	180,282
Grand total	....	....	....	188,704

Two ½-yard mixers and one ½-yard mixer of the auxiliary plant at Miraflores were in operation during the week ending July 16, and the output at that point was considerably increased. The record for the week in detail follows:

	Auxiliary Plant.		
	½-Cubic yard mixers	⅓-Cubic yard mixer	Total
July 10	6	....	6
July 11	125	23½	148½
July 12	142	26	168
July 13	172	10	182
July 14	131	41¼	172¼
July 15	128½	35	163½
July 16	150	37	187
Totals	854½	172¾	1,027¼
Previously reported	....	....	2,360¼
Grand total	....	....	3,387½

Concrete at Gatun Locks.

A statement of the concrete laid in Gatun Locks during the week ending July 16, and of the total placed to that date, follows:

Date	Cubic Yards.			
	Construction plant.	Auxiliary plant.	Large stone in mass	Total.
July 11	2,420	832	197	3,449
July 12	2,272	860	267	3,399
July 13	2,182	902	286½	3,370½
July 14	2,106	942	328	3,376
July 15	2,256	879	268	3,403
July 16	1,946	828	276	3,050
Total	13,182	5,243	1,622½	20,047½
Previously reported	....	....	....	536,824
Grand total	....	....	....	556,871½

Making Ready at Toro Point.

The dredging of the harbor at Shelter Cove, Toro Point, to a depth of 16 feet, was completed last week and the dredge withdrawn. A track pile driver was taken to the Point on July 13 and work started on the trestle from the wharf to the shore. The same driver will start on the breakwater trestle when the shore connection is completed and track laid to the lighthouse. A large amount of lumber and piling for the purpose was received a few days ago and is being unloaded from the vessel at dock No. 14. The piles to be used are of various lengths, shorter piles for the inshore section and longer ones as the trestle is extended seaward. The dock at the Cove is about three-fifths completed; the piles for it are driven by a floating pile driver. The quarry sites have been cleared, drilled and blasted, ready to be opened up as soon as the tracks are laid. No tracklaying has yet been done, but a corduroy road has been built across the swamp between the quarries and the Point, which the track will cross. Work on the reservoir and pipe-lines to supply the camp with water is making progress. The reservoir will be fed by an 8-inch pipe from the river, and a 6-inch pipe will be laid from the reservoir to the camp. Building operations at the camp site are nearing an end, all but a few of the tents formerly occupied by the employes having been vacated. The quarters for the American employes are nearly finished, and the gold and silver messes and commissary are in operation, but some work remains to be done on the laborers' barracks. Sanitary work in the camp and vicinity continues.

Work at Porto Bello Quarry.

A statement of the work done at Porto Bello crusher, by days, for the week ending July 16, follows:

Date.	Hours worked.	Cubic Yards.
July 11	12:50	2,259
July 12	12:50	2,435
July 13	13:00	3,046
July 14	14:12	3,630
July 15	7:28	2,080
July 16	7:50	1,883
Total	68:10	15,333

A Transportation Record.

On July 9, 1910, seventy-six 19-yard 19-car Lidgerwood trains and two 10-yard 35-car Western dump trains were run from the Canal at Pedro Miguel and transported to either Miraflores or Balboa dump, thereby breaking all previous transportation records at the south end of the Canal.

Obituary.

Lamont Ames, an American, aged 60 years, employed at Gatun by the Atlantic Division, died at Colon Hospital on July 18. He came to the Isthmus from New York City about one year ago. His sister, Rose Vallet of Batavia, N. Y., survives him.

Electrical Storm at Colon.

During an electrical storm at Colon on Saturday afternoon, July 16, lightning struck a tree a few feet in front of the Washington Hotel, thence communicated by means of one of the limbs to the hotel fire escape down which it passed, chipping pieces from the timbers in the upper and lower balconies, and shattering some of the glass in one of the dining room windows. From the fire escape the bolt communicated with the electric light wires near by, blowing out the fuses, and passed over the same wires into the ground. The storm occurred about 3 o'clock in the afternoon at a time when there was no one in the dining room but the employes.

A tree in front of Ward E in the Colon Hospital reservation was also struck during the storm, but no damage was done.

Drowning at Balboa.

Albert Grant, check No. 66992, a Jamaican laborer employed on the sand barges at the Balboa unloading dock fell overboard at 2.40 o'clock on Saturday morning, July 16, and was drowned. The body was found on Tuesday, July 19, having floated to the surface. Although previously in the employment of the Pacific Division for a short time, he had only recommenced work on the night of the accident.

SOCIAL LIFE OF THE ZONE.

Women's Clubs and Other Events.

The Gatun Woman's Club held a special meeting on Friday, July 8, as a farewell to Mrs. O. L. Brownell, charter member, who has left for her home in Janesville, Wis. The meeting was held at Mrs. Brownell's home. There were 18 members present. The last regular meeting for the season was held on Friday, July 1, at the home of Mrs. C. C. Carty, when the program consisted of historic and patriotic papers. The house was decorated with the national colors. A social meeting of the club will be held at the home of the president on Friday, August 5.

The Isthmian Canal Rebekah Lodge No.1, I. O. O. F., Gorgona, meets the second and fourth Friday evenings in each month at 7.30 o'clock. Installation of officers will take place on Friday evening, July 22. All members of the order, visiting or resident in the Canal Zone, are cordially invited to be present.

The Pythian Sisters, Canal Zone Temple No. 1, have received a dispensation from the Supreme Temple to hold their meetings at Las Cascadas, instead of at Empire, as heretofore, and the first meeting under the dispensation was held in the lodge hall on Wednesday evening, July 13. The business consisted of election of officers for the ensuing six months and the initiation of four candidates. The membership is fifty. Meetings are held on the second and fourth Wednesday evenings in each month at 7.30 o'clock.

Arrangements are being made for a dance to be given by the Knights of Pythias at Las Cascadas in the near future.

There will be a meeting of the Canal Zone Humane Society at Ancon hall on Sunday afternoon, July 21, at 2 o'clock. All members and others interested in the work of the society are cordially invited to attend. The meeting will close in time for visitors from the line stations to take the four o'clock train out of Panama.

The Pacific Club, Paraiso, held an election of officers on Monday evening, July 11, when W. Bain was again chosen president. H. W. Coutermarsh was elected secretary-treasurer. The Monday evening dances will continue for the present.

The Gorgona ladies' bowling team challenged the Gatun ladies' bowling team to a match, which was played at the Gatun clubhouse on Thursday afternoon, July 14. The teams were composed of the following: Gorgona—Mrs. A. F. Cochrane, Mrs. J. F. Phillips, Mrs. C. Julian and Mrs. George Lowe. Gatun—Mrs. N. M. Gamble, Mrs. C. H. Ouran, Mrs. F. Houston, Miss Maude Carty. The Gatun ladies won two games out of three.

A dancing club has been organized among the young men in Ancon under the name of the N. A. D. T. Club. The membership is limited to 25. Dances are to be held in Ancon Hall on the second and fourth Friday evenings in the month. The officers are: President, A. M. Colegrove; vice-president, R. A. Yonkers; secretary and tresurer, Charles H. Bovay.

Entertainment at Camp Elliott.

An entertainment was held by the Camp Elliott Dramatic Club at the post gymnasium on Saturday evening, July 16, the program consisting of two original one-act comedies by Private H. H. Guerard entitled "The Lovers' Dilemma," and "Trouble in a Turkish Harem." There was a large audience, composed of members of the post and residents of Bas Obispo. The receipts were donated to the band fund. The performance will be repeated at the clubhouse in Porto Bello on July 20, and at Empire on July 30.

Church Work.

There will be a picnic for the pupils of St. Luke's Episcopal Sunday school and children of members of the congregation on Thursday, July 28, when the day will be spent at Naos or Culebra Island.

The Rev. S. L. Morris, D. D. of Atlanta, Ga., general secretary of the Home Mission Board of the Presbyterian Church, commonly known as the Southern Presbyterian Church, is a visitor on the Isthmus. Dr. Morris preached at the Union services in the I. C. C. chapel, Empire, on Sunday morning, July 10. He has also addressed the Christian Leagues at Empire and Culebra.

The vesper services at Camp Elliott on Sunday, July 17, were well attended. A special musical program was given by Mr. George Kramer of Culebra, assisted by the post orchestra.

Personal.

Mr. Geo. A. Greenslade, general superintendent of construction in the Central Division, sailed on the *Atenas* for New Orleans on July 14, for his annual leave of absence in the States.

Among the passengers on the Ancon due to arrive at Cristobal on July 20 are Col. W. C. Gorgas and family, and Col. Gustav J. Fiebeger and family.

Dr. Claude C. Pierce, quarantine officer at Colon, returned on the United Fruit Company's steamer *Santa Marta* on Friday, July 15, from his annual leave of absence, which he spent in Canada.

Pacific Masonic Club Election.

At the regular meeting of the Pacific Masonic Club held on Saturday evening, July 16, the following officers were elected and installed for the ensuing term: President, Dr. D. F. Reeder; vice-president, S .E. Blackburn; second vice-president, E. J. Rall; secretary and treasurer, D. R. Wolverton; assistant secretary and treasurer, C. D. Lillie.

Knights of Pythias.

The following officers were recently elected and installed in Empire Lodge No. 2, Knights of Pythias, for the ensuing term: Chancellor commander, J. B. Anderson; vice-chancellor, R. E. Murphy; prelate. L. C. Evans; master at arms, J. C. Earle; master of work, A. E. Folcey; keeper of records and seals, M. P. Benninger; master of exchequer, L. M. Lynn; master of finance, W. H. Ward, Jr.; inner guard, C. Poultney; outer guard, J. Conway.

Balboa Lodge No. 4, Knights of Pythias, Las Cascadas, held an open installation of officers in the lodge hall on Monday evening, July 11, when 170 representatives from several of the Canal Zone lodges were present. The following officers were installed for the ensuing six months: Chancellor commander, R. W. Walraven; vice-chancellor, C. H. Montague; prelate, J. W. Wilkins, Jr.; master of work, Wm. R. Chambers; keeper of records and seals and master of finance, C. A. Shaw; master of exchequer, A. M. Warner; master at arms, John L. Albrecht; inner guard, James E. Martin; outer guard, John A. Garver. Following the ceremony of installation, which was conducted by A. M. Warner, district deputy supreme chancellor, assisted by John L. Reese, of Chivalric Lodge No. 475, Dubois, Pa., and Captain W. H. Wietz, acting grand prelate of Balboa lodge, addresses were made reviewing the history of the order, its principles and the work in the Southern States. The program also included recitations and other numbers. The session closed with an informal dance, during which refreshments were served. The next meeting of Balboa lodge will be held on Monday evening, July 25, when two candidates will be initiated. A special train will run from Gorgona, and all members in good standing are invited to attend.

Knights of Columbus.

A regular meeting of Panama Council will be held at Ancon Hall, Sunday, July 24. All members, especially officers, are requested to be present, as the first degree will be conducted and important matters are to be considered.

C. P. CONLAN, *Financial Secretary.*

Corozal, C. Z., July 14, 1910.

Isthmian Conductors.

A meeting of the Order of Isthmian Conductors will be held at Las Cascadas Lodge Hall at 2.30 p. m., on Sunday afternoon, July 24.

F. H. ANDERSON,
Secretary and Treasurer.

Pedro Miguel, July 18, 1910.

Red Cross Finances.

The financial statement for June of Lieut.-Col. John L. Phillips, treasurer, in account with Canal Zone Chapter, American National Red Cross, follows:

RECEIPTS.		
June 1. Balance on hand	$2,239.48	
June 3. Receipts, Gatun Y. M. C. A. benefit	13.00	
June 23. Further receipts account entertainment at National Theatre, May 25	493.00	
June 31. Membership dues during month	10.00	
		$2,755.48
DISBURSEMENTS.		
June 13. Exchange on check to Washington covering membership dues for term ending November 30, 1909	3.32	
June 3 to 17. Miscellaneous expenses in connection with benefit performance for Cartago earthquake sufferers	108.83	
		112.15
June 30. Balance on hand		$2.643 33
Total receipts account Cartago earthquake sufferers		$1,310.90
Expenses		115.33
Net proceeds		$1,195.57
Remitted to Gustavus L. Munroe		500,00
Balance to be remitted,		$695.57

JOHN L. PHILLIPS,
Treasurer.

Approved: C. A. DEVOL,
Chairman.

Married.

DARLING-NAGLE—In New York City on June 8, 1910, Mary E. Nagle of St. Louis, to William W. Darling of Gorgona. Residence after September 1, at No. 2850 Michigan avenue, St. Louis.

OHLSON-DOOLITTLE—At 10 a. m. on July 16, in the Commission chapel at Cristobal, the Rev. Carl H. Elliott officiating, Anna Love Doolittle of Huntington, W. Va., to Elmer Ferdinand Ohlson of Big Rapids, Mich. Residence on the Isthmus at Ancon.

CORNWELL-HARRISON—At noon on July 17, at the home of the bride's parents in Corozal, the Rev. Carl H. Elliott officiating, Vera Harrison of Austin, Minn., to Varney T. Cornwell of Spring Valley, Minn. Residence on the Isthmus at Corozal.

FOUND—On July 4, in Gatun Lake, a 16-foot gasoline launch, square stern. Owner can have same by applying within fourteen days to Charles A. Johnson, machine shop, Gatun.

CANAL WORK IN JUNE.

Monthly Report of the Chairman to the Secretary of War.

CULEBRA, C. Z., July 14, 1910.

The Honorable the Secretary of War,
Washington, D. C.

Sir: I have the honor to submit the following report of operations on the Isthmus for the month of June, 1910:

Department of Construction and Engineering.

The following table summarizes the principal items of construction work accomplished by the Atlantic, Central and Pacific Divisions during the month:

Item.	Unit.	Atlantic.	Central.	Pacific.	Total.
Work excavation, dry	Cubic yards	88,088	1,469,530	41,900	1,599,518
Work excavation, wet	Cubic yards	458,021	....	475,486	933,507
Total work excavation	Cubic yards	546,109	1,469,530	517,386	2,533,025
Plant excavation, dry	Cubic yards	22,476	22,386	....	44,862
Plant excavation, wet	Cubic yards	30,293	....	8,429	38,722
Total plant excavation	Cubic yards	52,769	22,386	8,429	83,584
Total Canal excavation	Cubic yards	598,878	1,491,916	525,815	2,616,609
Material placed in dams	Cubic yards	655,449	....	8,706	664,155
Concrete placed	Cubic yards	91,980	....	32,234	124,214
Explosives used	Tons (Gross)	85.61	329.80	28.03	443.44
Rock drilling	Feet	41,401	394,790	52,960	489,151
Track removed	Miles	....	10.86	....	10.86
New tracks laid	Miles	4.08	15.85	1.26	21.19
Rock crushed	Cubic yards	74,184	595	32,232	107,011
Cement used	Barrels	95,674	33	....	95,707
New roads built	Miles	....	....	.18	.18
Water mains laid	Feet	2,126	3,270	2,118	7,514
Sewers laid	Feet	4,090	1,909	1,554	7,553
New drains and ditches dug	Feet	8 670	195	4,359	13,224
Average daily force		8,317	9,008	4,268	21,593
Rainfall, average	Inches	12.52	11.10	12.18	11.67

Atlantic Division.

GATUN LOCKS.

Excavation—Shovel excavation during the month was carried on in the lower chamber. The excavation for the entire locks proper, exclusive of the excavation for the approach walls, was 94 per cent completed. The channeling in the middle chamber was completed, and the culvert excavation was 45 per cent completed.

Receiving and Issuing Material—The receipts of material during the month were satisfactory, with the exception of crushed rock and lumber. The consumption of crushed rock slightly exceeded the receipts; the amount of lumber used, as compared with the amount received, was about 10 to 1.

Mixing and Placing Plants—These plants were kept in satisfactory operation during the month. As the result of overhauling plant No. 1 its operation was more satisfactory than at any time in the past.

Concrete Work—The concrete work for June showed an increase over May of approximately 15,000 cubic yards. The place measurement exceeded the bucket measurement by 161½ cubic yards. The amount of large stone placed was 4,277½ cubic yards, almost double the amount placed in May. The concreting in the upper lock was 57 per cent completed, and for the entire locks, exclusive of the approach walls, the concrete work was approximately 26 per cent completed. The entire floor of the upper lock is completed, and the laying of concrete in the floor of the middle lock was commenced.

Power Plant—The power plant was operated satisfactorily during the month.

Iron and Steel Work—The setting of quoin posts and anchorages for the upper guard gates and operating gates was commenced.

GATUN DAM.

Construction during the month increased the total fill by 655,449 cubic yards, making the total amount in place 8,484,079 cubic yards.

Hydraulic Fill—The dredges increased the hydraulic fill by 384,166 cubic yards, which made the total hydraulic fill in place at the close of the month 3,653,222 cubic yards.

Dry Fill—The material received from the Central Division, the Locks and the Spillway bridge excavation, amounting to 271,283 cubic yards, was placed on the north and south toes of the Dam, making the total dry fill in place, 4,820,857 cubic yards.

GATUN SPILLWAY.

Concrete—The construction of the east approach wall was continued, 2,589 cubic yards of concrete being placed.

Backfill—To reinforce the approaches to the Spillway bridge, 1,196 cubic yards of hard rock were deposited as backfill behind the Spillway side walls at the abutment piers of the bridge.

Excavation—Excavation during the month for the foundation of the east approach wall, amounting to 585 cubic yards, increased the total Spillway excavation to 1,426,332 cubic yards.

Spillway Bridge—The Spillway bridge was put into service early in the month, the painting work, the erection of hand rails and the placing of guard rails being continued thereafter.

Cut-off Levee—Work was continued constructing the levee from Spillway Hill to Mindi Hill, and during the month 28,923 cubic yards of material were placed, making the total at the end of the month 134,096 cubic yards.

HARBOR AND CHANNEL SECTION.

Dredging from the Ocean to Mindi—Four dredges removed from the Canal prism 417,503 cubic yards of earth and 40,518 cubic yards of rock. In addition, the dredge *Mindi* removed 25,602 cubic yards of earth and 4,690 cubic yards of rock from Shelter Cove. The dredge *Chagres* removed 2,100 cubic yards of earth at the east end of pier No. 11. On June 30th, 37 feet of water could be carried from zero to mile 2 plus 00 feet; 30 feet to mile 4 plus 3,900 feet; 20 feet to mile 5 plus 700 feet; 15 feet to mile 5 plus 1,910 feet, the end of the cut.

PORTO BELLO.

At this point two 8-hour shifts were continued during the month. The maximum day's output was 3,952 cubic yards of crushed rock, and the total for the month 74,184 cubic yards. The average hourly output for 397 hours and five minutes was 186.8 cubic yards.

SAND, STONE AND CEMENT SERVICE.

In connection with this service, plant steamed about 8,423 miles, handled 711 barges, and carried about 2,025 passengers.

COLON BREAKWATERS.

At Shelter Cove, 30,293 cubic yards of material were dredged. A large amount of miscellaneous work was also performed.

NOMBRE DE DIOS.

During the month 45 barge loads, containing 26,351 cubic yards of sand, were shipped to Gatun.

MUNICIPAL ENGINEERING.

The usual work of maintenance of roads, waterworks and sewers, pumping stations, etc., was satisfactorily performed.

Central Division.

During the month of June the total amount of material excavated in the Central Division was 1,491,916 cubic yards, of which 318,114 cubic yards were classified as earth, and 1,173,802 cubic yards as rock. Of this quantity, 1,443,099 cubic yards were removed by steam shovels, 22,386 cubic yards by hand, 16,241 cubic yards by contract, and 10,190 cubic yards by orange peel bucket crane. Of the total, 1,456,388 cubic yards were primary excavation for the Canal prism, 10,190 cubic yards were silt deposited in completed sections, 2,952 cubic yards were for the Obispo Diversion. and 22,386 cubic yards were for inclines for tracks not useful to the completed Canal.

The daily average number of steam shovels at work during the month was 45.15, and the total number of shovel days was 1,174, as compared with 44.80 shovels at work during the month of May, with 1,120 shovel days.

For comparison with the work done by steam shovels during the corresponding month of the previous year, the following table has been prepared:

Period.	Excavated by shovels.	Classification of material.		Av. No. of shovels at work.	W'kg days.	Av. yards per shovel day.
		Rock	Earth.			
1909:	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*			*C. Y.*
June....	1,475,428	1,097,968	377,460	45.65	26	1,242.9
1910:						
June....	1,443,099	1,166,754	276,345	45.15	26	1,229.2

Rainfall at Empire: 1909, 7 84 ins.; 1910, 10.17 ins.

The above table shows the average output per shovel day to be 1.1 per cent less in June, 1910, than in the corresponding month of the previous year, which was due principally to a heavier rainfall.

The total amount of material excavated from the prism in the Culebra section of the Central Division in June, 1910, was 1 302,189 cubic yards, being the highest record in that section for the month of June, the highest previous record for that month having been in June, 1909, when 1,240,783 cubic yards were removed.

On account of the construction of a basin north of Pedro Miguel Locks; the excavation to elevation, plus 39, which has been found necessary in the Chagres Section; greater silting than already provided for in this section, and on account of a number of new slides and the breaking of the banks of the Canal in several places during the past few months, the estimate of the total amount of material to be excavated in order to complete the Canal in the Central Division has been entirely recomputed and increased by 7,330,525 cubic yards over the old estimate of September, 1908, making 97,125,018 cubic yards in all to be removed in the Central Division from the time the United States assumed control.

Up to July 1, 1910, 58,815,543 cubic yards had been removed, leaving 38,309,475 cubic yards to be removed in order to complete all excavation in the Central Division. From these figures it will be seen that 60.56 per cent of all excavation in the Central Division had been completed up to the end of June, and 39.44 per cent remained unfinished.

Considering the two sections which compose the Central Division, the excavation completed and that to be completed at the close of June operations were as follows:

CULEBRA SECTION.

	Cubic Yards.
Completed	49,317,870
To be completed	34,893,531

CHAGRES SECTION.

Completed	9,497,673
To be completed	3,415,944

From the above figures it will be seen that the Culebra Section, locally known as the Culebra Cut, was 58.56 per cent completed, with 41.44 per cent to be completed; the Chagres Section was 73.55 per cent completed, with 26.45 per cent to be completed.

During the month the following quantities of material were hauled from the Canal prism and dumped in the embankment for the new roadbed for the relocation of the Panama railroad: 13,840 cubic yards in the vicinity of Pedro Miguel; 33,682 cubic yards between Caimito and Gamboa; 41,319 cubic yards in the vicinity of Miraflores. The total at the close of the month for this purpose was 3,666,118 cubic yards. During the month 159,225 cubic yards of rock from the Culebra Cut were transported to Gatun for use in the construction of the Dam, making the total at the close of the month for this purpose 410,374 cubic yards of earth, and 1,148,303 cubic yards of rock.

The output of the Empire portable rock crusher for the month was 156 cubic yards, and that of the Gorgona portable rock crusher, 439 cubic yards. Gravel secured from bars which formed during the floods of the Chagres River at Santa Cruz and Matachin was used for track ballast. There were 410 cubic yards of this gravel removed and stored for future work, making the amount stored for this purpose 35,783 cubic yards.

The daily average number of laborers at work on the whole division during the month was 8,111, the average number of gold men being 894.

Pacific Division.

DISTRICT NO. 1—LOCKS AND DAMS.

The total excavation during the month amounted to 41,900 cubic yards. At Pedro Miguel, 1,350 cubic yards of dry filling were added to the prism of the west dam, making the total at the close of the month 260,852 cubic yards. In addition, 9,616 cubic yards of dry filling were placed in backfill. At Miraflores 7,356 cubic yards of dry filling were added to the toe; no hydraulic filling was added to the core of the west dam, making the totals at the close of the month 520,901 cubic yards and 138,587 cubic yards, respectively. During the month 10,210 cubic yards of dry filling were placed in backfill, increasing the total to 121,080 cubic yards.

PEDRO MIGUEL HANDLING PLANT.

Chamber crane No. 3 was operated during the month, being supplied from temporary mixer No. 6. One mixer on the "G" berm crane was put into operation about the middle of the month, the second mixer on this crane being delayed waiting for a motor from the States. This motor arrived at the end of the month, and the work of installation was immediately commenced. The narrow gage trestle in the east chamber was nearly completed.

Concrete Work—The concrete work during the month amounted to 30,631 cubic yards, 17,112 cubic yards being placed in the west wall, 8,580 cubic yards in the center wall, and 4,939 cubic yards in the floors and sills.

MIRAFLORES HANDLING PLANT.

The work of constructing two temporary mixers attached to the storage trestle for furnishing concrete to the east berm crane was about 25 per cent completed. The east berm crane was completed during the month, and the west berm crane about 60 per cent completed.

Concrete Work—Concreting in the floor system of the upper lock at Miraflores was commenced with two small mixers during the early part of June, and at the close of the month 1,603 cubic yards of concrete had been laid.

DISTRICT NO. 2—DREDGING.

The following table gives the output of the five dredges which were in operation during the month:

Dredge.	Type.	Work.		Plant.		Total.	Remarks.
		Earth.	Rock.	Earth.	Rock.		
		Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*	
Badger	Ladder	42,756	1,787	7,779	650	52,972	Place measurement
Cardenas	Dipper	24,550	5,150	7,900		37,600	Place measurement
Marmot	Ladder	85,640	6,874			92,514	Place measurement
Mole	Ladder	28,150	1,600			29,750	Place measurement
Culebra	Suction	271,079				271,079	Scow measurement
Total		452,175	15,411	15,679	650	483,915	

CHAMÉ SAND EXCAVATION.

During the month approximately 35,600 cubic yards of sand were obtained.

HYDRAULIC EXCAVATION PLANT.

The erection of the Agua Dulce pumping station for the hydraulic excavation plant was continued during the month. The installation of the pumps was completed, and the erection of the boilers about 50 per cent completed. The laying of the main discharge pipe was begun, about 500 linear feet being laid.

DISTRICT NO. 3—MUNICIPAL WORK.

The maintenance and operation of the various municipal plants were continued satisfactorily.

Cocoli Pumping and Filtration Plant—The Venturi meter at Cocoli registered 13,823,000 gallons, or a daily average of 531,654 gallons of water supplied to the 16-inch main from the Cocoli Lake.

Rio Grande Reservoir—The Venturi meter at the Rio Grande reservoir registered an outflow of 106,082,000 gallons of water during the month, or a daily average of 3,536,067 gallons. The elevation of the water in the reservoir on June 30 was 236.27 feet, showing a rise of 7.13 feet during the month.

Panama Improvements—During the month the work on the new improvements in the city of Panama progressed satisfactorily.

Naos Island Reservoir—Work was completed on the 100,000 gallon concrete reservoir at Naos Island on June 30.

DISTRICT NO. 4—ANCON QUARRY.

At Ancon quarry 32,232 cubic yards of crushed stone were produced. The quarry was operated satisfactorily, the larger motors for the No. 6 crushers having been installed during the early part of the month.

Relocation of Panama Railroad.

During the month 243,165 cubic yards of material were excavated, making the total excavation at the close of the month 3,888,053 cubic yards, and 363,268 cubic yards of material were placed in embankment, making the total at the close of the month 8,856,169 cubic yards.

No temporary trestles were driven during the month, but the work of constructing bridges and culverts was continued. During the month 4,381 linear feet of 70-pound track were recovered, and 8,202 feet of 90-pound track were laid, making the total 158,458 linear feet of 70-pound track, and 17,997 linear feet of 90-pound track.

The total force averaged 2,338 men during the month.

Quartermaster's Department.

Labor—Labor conditions were satisfactory during the month.

Quarters—The number of applicants on the No. 1 list for quarters was reduced to 18; there were 525 applicants on the No. 2 list. Out of a total of 1,704 families in quarters, 656 are families of employes appointed subsequent to January 1, 1908.

Building Construction—Rapid progress was made in construction work at Toro Point. At the end of the month the hotel, one type-18 quarters, and three laborers' barracks were practically completed, in addition to the laborers' mess hall which was completed in May.

Material and Supplies—The estimated cost of material purchased during the fiscal year July 1, 1909, to June 30, 1910, is $13,863,401.82, chargeable to appropriations as follows:

Construction and Engineering	$13,740,867.18
Zone Sanitation	108,540.41
Civil Administration	13,994.23

In addition to the foregoing, there has been ordered on annual contracts material estimated to cost $2,052,994.37.

Subsistence Department.

The operation of the European laborers' messes, the colored laborers' kitchens, and the line hotels showed a net profit of $2,103.27; the operation of the Hotel Tivoli showed a net loss of $103.59, and there was a net profit on restaurants and penitentiary of $338.75. The net profit on subsistence operations was $2,338.43.

Department of Civil Administration.

COURTS.

Fourteen civil and 31 criminal cases were disposed of in the Circuit Courts of the Canal Zone, and 99 civil and 590 criminal cases in the District Courts.

DIVISION OF POSTS, CUSTOMS AND REVENUES.

Money order sales for June amounted to $423,014.52, and the fees to $1,861.09. Receipts from stamp and card sales and newspaper postage aggregated $7,036.45. The total collections of the Division were $39,238.74, and the collections on account of court fines, costs and fees, $3,250.54. The net revenues of the Zone were $39,676.88.

During the month 21 vessels entered at and 19 vessels cleared from the port of Ancon, and 21 vessels entered at and 23 vessels cleared from the port of Cristobal.

DIVISION OF POLICE AND PRISONS.

The number of arrests during the month was 616, a decrease of 41 as compared with May. Twenty convicts were committed to the penitentiary, and 9 were discharged, and on June 30th 138 convicts were confined in the penitentiary. The cost of guarding and subsisting the convicts was $2,591.25, and the value of the work performed by them was $1,987.50. Their services were utilized in the construction of the Empire-Paraiso road, and filling a swamp at West Culebra.

DIVISION OF FIRE PROTECTION

During the month 5 fires were reported in the Canal Zone. The estimated value of property involved was $145,000, and the damage was 35 cents to Government property.

DIVISION OF PUBLIC WORKS.

In the city of Panama the average daily consumption of water during the month was 1,057,299 gallons, and in Colon, 819,882 gallons. The usual inspection amd maintenance work of this division was performed during the month.

DIVISION OF SCHOOLS.

The total enrollment in the white schools was 728, and the average daily attendance 632.9, or 87 per cent of the enrollment, and in the colored schools the total enrollment was 886, and the average daily attendance 445.3, or 50 per cent of the enrollment. The school year ended on June 30, and on that date the schools were closed for the summer vacation.

Department of Sanitation.

The annual death rates per thousand from all causes for white employes for the month of June since American occupation were as follows:

June, 1905	29.29
June, 1906	7.23
June, 1907	21.05
June, 1908	19.84
June, 1909	9.44
June, 1910	4.50

For the same period the annual death rates per thousand from all causes for black employes were as follows:

June, 1905	13.02
June, 1906	48.96
June, 1907	29.96
June, 1908	9.46
June, 1909	9.32
June, 1910	12.80

For the same period the death rates for all employes from all causes were:

June, 1905	16.44
June, 1906	41.55
June, 1907	27.53
June, 1908	12.35
June, 1909	9.34
June, 1910	10.66

For the same period the annual death rates per thousand for the Canal Zone and the cities of Panama and Colon were:

June, 1905	50.57
June, 1906	51.89
June, 1907	33.45
June, 1908	29.17
June, 1909	16.42
June, 1910	20.38

For the same period the number per thousand of employes admitted to hospital and sick camps, including those sick in quarters, was as follows:

June, 1907	116
June, 1908	61
June, 1909	69
June, 1910	92

(Rates for 1905 and 1906 not available, as sick camp and quarters cases were not reported then.)

The following table gives the number of employes during the month of June from 1905 to 1910, inclusive, with deaths and annual averages per thousand:

Year	Employes	Deaths	Rate per thousand on annual basis
1905	17,517	24	16.44
1906	28,010	97	41.55
1907	39,659	91	27.53
1908	45,662	47	12.35
1909	47,493	37	9.34
1910	51,767	46	10.66

During the month of June, 1910, among employes there were 2 deaths from dysentery, 10 from malaria, 1 from black water fever, 9 from pneumonia, 1 from typhoid fever, 5 from tuberculosis, 1 from accidental drowning, 6 from injuries of various kinds, and 11 from other causes. Among white employes there were no deaths of Americans; from foreign countries 5.

The following table shows the number of cases and deaths among employes from malaria fever during the month of June for the past 6 years:

Year	Cases	Deaths
1905	428	5
1906	2,250	17
1907	1,029	9
1908	630	3
1909	743	1
1910	1,253	8

No cases of smallpox, plague or yellow fever originated on or were brought to the Isthmus during the month.

Respectfully,
GEO. W. GOETHALS, *Chairman.*

Misdirected Letters.

DIVISION OF POSTS, CUSTOMS AND REVENUES,
ANCON, C. Z., July 20 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Allen, E. E.
Anderson, Norman
Arden, Oliver
Brady, L.
Brown, H. F. (3)
Cadena, Rafael
Cody, H.
Cody, M. J
Crump H. F.
Cunnings, Wm.
Curran, Mrs. James S.
Dugan, Mrs Mary J.
Earll, Geo. D.
Edwards, Mrs Fritz A.
Eggleston, Mrs. O W.
Eiuerman, Fred
Griffin, Phil
Halligan, Mrs. T.
Johnson, James
Kranz, H.
Martin, L D.
Moseley, Philip P.
Nethersol, Fred
Oliver, Lando
Pratt, Norman C.
Porter, Griffith
Randall C.
Rowe, O A.
Saumetinger, J. M.
Swan, Zachariah
Tearon, T. B.
Tucker, Mrs. Logan
Watkins, John C.
Weidmann Nicholas
Williams, W. M.

Auction of a Pony.

There will be sold at public auction, at Empire police station, at 2 o'clock p. m., July 30, 1910, the following described public animal: Grey native pony No. 27. Animal may be seen at Empire police station. Full information may be obtained from the Head of Department of Civil Administration, Ancon, C. Z.

LOST—Gold Greek fraternal pin, with name on back "E. G. Dyer," in Cristobal or Colon, July 13. Reward for return to Health Office, Cristobal.

OFFICIAL CIRCULARS.

Inspector of Shops.

CULEBRA, C. Z., June 27, 1910.

CIRCULAR NO. 339:

Effective this date, Major T. C. Dickson is appointed Inspector of Shops, reporting directly to the Assistant to the Chief Engineer.

His jurisdiction as such covers all shops both of the Isthmian Canal Commission and Panama Railroad Company.

His duties will include the economical distribution of work among the different shops; the distribution of tools in the shops and the necessities of additional shop facilities; the adoption of standard shop methods; and such similar duties as may be assigned to him from time to time.

His services in an advisory capacity on all shop matters are available for use by the Division Engineers and other officials having jurisdiction over shops, whenever desired, and it is expected that his services will be fully used as such by all concerned.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission,
President, Panama Railroad Company.

Children and Steamship Transportation.

CULEBRA, C. Z., July 12, 1910.

CIRCULAR NO. 175-C:

When requesting steamship transportation for families, employes must state the number of small children or infants traveling, to avoid complications in assigning berths.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Rules Governing Shop Employes.

CULEBRA, C. Z., July 12, 1910.

CIRCULAR NO. 262-B:

The following addition to paragraph 1 of Rules Governing Shop Employes is effective this date:

Regular working hours of hourly employes will not be changed unnecessarily from day to day, and in shops working more than one shift individual men will not be changed from shift to shift more frequently than the necessities of the work require. Existing rules limiting overtime must not be construed as authorizing or permitting men to be laid off during the hours of their regular shift solely to reduce the amount of overtime, when they are able to render efficient service during their regular shift and there is work for them to perform.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Master of Barges and Seaman.

CULEBRA, C. Z., July 13, 1910.

CIRCULAR NO. 299-F:

The rating of Master of Barges at $150 a month is hereby authorized.

The rating of Seaman (special) at $60 a month is hereby abolished.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Foreman of Barge and Seaman.

CULEBRA, C. Z., July 13, 1910.

CIRCULAR NO. 229-K:

The following additional designations and rates of pay are hereby authorized:

The rate of $90 a month, without subsistence, for the position of Foreman (Barge).

The rate of $50 a month for the position of Seaman.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Traveling Engineer.

CULEBRA, C. Z., July 11, 1910

CIRCULAR NO. 265-D:

Effective July 11, Mr. D. E. Irwin is appointed Traveling Engineer with the following duties:

1. Inspection of fuel and oil consumption in all plants and on all equipment of the I. C. C. and P. R. R., except marine equipment and locomotives. This inspection will include hand oilers, oil containers, fire tools, small tools, etc., in connection therewith
2. The instruction of employes in the foregoing plants and on the foregoing equipment as to economy in the use of fuel and oil.
3. The furnishing on request of qualified firemen to fill any vacancies at the authorized entrance rates of pay.

In the execution of these duties he will act in an advisory capacity and will perform same in a manner satisfactory to the division heads.

It is intended that departments and divisions will make full use of his services in obtaining the greatest practicable economy in the use of fuel and oil, and that, so far as practicable, his recommendations regarding the discharge of unsatisfactory firemen and the employment of firemen suitably qualified will be followed.

He should be promptly informed by the different divisions and departments of all changes in their firemen.

He will report directly to the Assistant to the Chief Engineer.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission.
President, Panama Railroad Company.

New Account in Classified Expenditures.

EMPIRE, C. Z., July 15, 1910.

CIRCULAR No. 25:

The following new account in the classified expenditures is hereby authorized:

Department of Civil Administration.

119—Survey of Canal Zone Lands.

To this account will be charged all expenditures for labor and material used in the survey of Canal Zone lands, including traveling and all other expenses incident thereto.

W. W. WARWICK,
Examiner of Accounts.

Approved: GEO. W. GOETHALS,
Chairman and Chief Engineer.

Accounts in Classified Expenditures.

EMPIRE, C. Z., July 1, 1910.

CIRCULAR No. 24:

The following amendments and additions to the Classified Expenditures of the Isthmian Canal Commission have been made during the fiscal year ended June 30, 1910:

DEPARTMENT OF SANITATION.

201. *Administration.*

Amended to include charges for salaries of chaplains assigned to hospitals other than those of Ancon and Colon.

202. *Hospitals and Asylums.*

F. Other Hospitals, Dispensaries and Sick Camps. Amended to exclude charges for salaries of chaplains.

DEPARTMENT OF CONSTRUCTION AND ENGINEERING.

ATLANTIC DIVISION.

315. *Rock and Sand Account.*

A. Porto Bello Rock Plant. (As amended.)

This account will be opened with a charge of the value of plant heretofore purchased or used by this division in the operation of the crusher plant and in obtaining stone to be crushed, of plant hereafter purchased or used therein and of expenses incident to opening the quarry; also to be charged with plant transferred from other divisions and credited with plant transferred from this division. This account will be credited with the amount of the arbitrary charged monthly to General Account No. 2, subaccount No. 10—"Porto Bello Rock Plant."

B. Nombre de Dios Sand Plant. (As amended.)

This account will be opened with a charge of the value of plant heretofore purchased or used in obtaining sand, including sand lands purchased and their development, of plant hereafter purchased or used therein and of plant transferred from other divisions and credited with plant transferred from this division. This account will be credited with the amount of the arbitrary charged monthly to General Account No. 2, subaccount No. 11—"Nombre de Dios Sand Plant."

C. Transportation Plant. (As amended.)

This account will be opened with a charge of the value of all plant, including vessels, barges, etc., used in the transportation of rock and sand from Porto Bello and Nombre de Dios, and of all plant transferred from other divisions, and credited with plant transferred from this division. This account will be credited with the amount of arbitrary charged monthly to General Account No. 2, subaccount No. 12—"Porto Bello and Nombre de Dios Transportation."

317. *Gatun-Mindi Levee.*

To this account will be charged a proper proportion of the salaries and expenses of the supervising force of the division and the salaries and expenses of all officers and employes while engaged directly in the work of constructing the levee north of Gatun Dam; also all material and supplies used, expenses incurred and the repair of equipment used in the work.

CENTRAL DIVISION.

327. *Clearing Channel in Gatun Lake.*

To this account will be charged a proper proportion of the salaries and expenses of the supervising force of the division, and the salaries and expenses of all officers and employes while engaged directly in the work of clearing a channel in the lake and an anchorage basin; also all material and supplies used, expenses incurred and repair of equipment used in the work. No charge will be made to this account for expenses where excavation is involved.

PACIFIC DIVISION.

339. *Rock and Sand Account.*

A. Ancon Rock Plant. (As amended.)

This account will be opened with a charge of the value of plant heretofore purchased or used by this division in the operation of the crusher plant; in obtaining stone to be crushed, transporting the product to storage and with expenses incident to opening the quarry; also to be charged with plant transferred to this division and credited with plant transferred from this division. This account will be credited with the amount of the arbitrary charged monthly to General Account No. 2, subaccount No. 17—"Ancon Rock Crusher."

B. Chamé Sand Plant.

This account will be opened with a charge of the value of plant heretofore purchased or used in obtaining sand and transporting the product to storage, including sand lands purchased and their development, of plant hereafter purchased or used therein and of plant transferred from other divisions, and credited with plant transferred from this division. This account will be credited with the amount of the arbitrary charged monthly to General Account No. 2, subaccount No. 18—"Chamé Sand Plant."

341. *Naos Island Breakwater.*

A. Construction.

To this account will be charged the cost of constructing the trestle for Naos Island Breakwater and for any expenses in connection with said breakwater which are chargeable to Pacific Division.

B. Plant.

This account will be opened with a charge of the value of plant heretofore purchased or used in construction of Naos Island Breakwater and of plant hereafter purchased or used therein; also to be charged with plant transferred from other divisions and credited with plant transferred from this division.

GENERAL ITEMS.

401. *Lands Purchased.*

A. For Construction Work or to be Flooded. (As amended.)

To this account will be charged all payments for lands acquired by the Commission for construction purposes, or which are to be flooded, including all expenses in connection with their purchase or expropriation, and includes charges for lands acquired under award by the Joint Land Commission in the area to be flooded by Gatun Lake, and such charges for lands purchased as are not directly chargeable to any particular unit of the work.

405. *Relocation of Panama Railroad.*

C. Plant.

This account will be opened with a charge of the value of plant heretofore purchased for or used by the Panama Railroad in the construction and maintenance of its relocated line, and the value of the plant hereafter transferred for this purpose, and credited with the value of such plant when returned to the Commission.

422. *Plant in Panama Railroad Service.*

This account will be opened with a charge of the value of plant heretofore loaned the Panama Railroad for construction, maintenance or operation, except that used in construction and maintenance of the relocated line, and with plant hereafter loaned, and credited with plant returned to the Commission.

General Account No. 2—Manufacturing Account.

10. Porto Bello Rock Plant. (As amended.)

To this account will be charged all labor, material and supplies used in the operation of Porto Bello quarry, including repairs to equipment, maintenance and other incidental expenses. This account will also be charged with an arbitrary per cubic yard crushed during the month based on the estimated total cost of plant and installation and the estimated number of cubic yards of crushed rock to be obtained from the quarry. This account will be cleared monthly by charge to material and supplies. The price at which the rock is to be taken into account will be obtained by dividing the number of yards crushed into the total expenses.

11. Nombre de Dios Sand Plant. (As amended.)

To this account will be charged all labor, material and supplies used in the operation of Nombre de Dios sand pit, including repairs to equipment, maintenance and other incidental expenses. This account will also be charged with an arbitrary per cubic yard excavated during the month based on the estimated total cost of plant and installation and the estimated number of cubic yards of sand to be obtained from the pit. This account will be cleared monthly by charge to material and supplies. The price at which the sand is to be taken into account will be obtained by dividing the number of yards excavated into the total expenses.

12. Porto Bello and Nombre de Dios Transportation. (As amended.)

To this account will be charged the cost of operating floating equipment used in the transportation of rock and sand from Porto Bello and Nombre de Dios, and cement from Cristobal to Gatun, including the cost of unloading at that point. This account will also be charged with an arbitrary based on the estimated total cost of the transportation plant and the estimated number of cubic yards of rock and sand to be obtained from the quarry and sand pit and of cement transported from Cristobal. This account will be cleared monthly by charge to the accounts benefited, based on services rendered.

17. Ancon Rock Crusher. (As Amended.)

To this account will be charged all labor, material and supplies used in the operation of the Ancon crushers, including repairs to equipment, maintenance and other incidental expenses, and all expenses incident to the transportation of rock to storage. This account will also be charged with an arbitrary per cubic yard crushed per month based on the estimated total cost of plant and installation and the estimated number of cubic yards of crushed rock to be obtained from the quarry. This account will be cleared monthly by charge to material and supplies. The price at which the rock is to be taken into account will be obtained by dividing the number of yards crushed into the total expenses.

18. Chamé Sand Plant. (As amended.)

To this account will be charged all labor, material and supplies used in the operation of the Chamé sand plant, including repairs to equipment, maintenance and other incidental expenses, and all expenses incident to the transportation of sand to storage. This account will also be charged with an arbitrary per cubic yard excavated per month based on the estimated total cost of plant and installation and the estimated number of cubic yards of sand to be obtained from the pit. This account will be cleared monthly by charge to material and supplies. The price at which the sand is to be taken into account will be obtained by dividing the number of yards excavated into the total expenses.

W. W. WARWICK,
Examiner of Accounts.

Approved:
GEO. W. GOETHALS,
Chairman and Chief Engineer.

Stages of the Chagres.

Maximum height of Chagres River above mean sea level for the week ending midnight, Saturday, July 16, 1910.

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela.	Gamboa.	Bohio.	Gatun. (Lake.)
Height of low water above sea-level, ft..	125	92	46	0	0
Maximum height ab. mean sea-level, feet:					
Sunday, July 10....	131.0	96.4	51.9	20.2	18.4
Monday, July 11...	131.4	96.9	53.1	21.2	19.2
Tuesday, July 12...	133.5	98.2	53.2	19.8	19.0
Wed'esday, July 13.	130.2	96.6	53.2	20.6	19.0
Thursday, July 14..	128.8	95.3	49.2	19.3	18.8
Friday, July 15.....	136.7	100.2	52.7	18.6	18.3
Saturday, July 16..	135.2	100.2	55.2	19.9	18.3

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending July 27, 1910, (75th meridian time):

DATE.	Low.	High.	Low.	High.	Low.
		A. M.	A. M.	P. M.	P. M.
July 21......	....	3.06	9.12	3.12	9.35
July 22......	....	3.45	9.55	3.53	10.15
July 23......	... .	4.23	10.35	4.34	10.57
July 24......	....	5.04	11.17	5.15	11.38
July 25......	....	5.43	NOON 12.00	5.57	....
July 26......	A. M. 12.20	6.25	P. M. 12.43	6.40	....
July 27......	1.02	7.08	1.30	7.27	....

The variation of high and low tide at Cristobal is so slight that a tide table for the Atlantic side is not necessary.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Empire, C. Z., on Sunday, July 24, 1910, at 6 p. m. The program follows:

1 March—*Vesuvius*..............................Kaine
2 Selection—*A Trip to Japan*..................Klein
3 Waltz—*Sobre Las Olas*......................Rosas
4 { *a Wild Cherries*..........................Snyder
  { *b Moonlight in Dixie*..................Clement
5 *Among the Lillies*..............................Frey
6 Bolero—*Isolina*...............................Labory
7 Medley of Popular Songs................La Farge
8 { *a Quartet from Rigoletto*.................Verdi
  { *b Sextet from Lucia*..................Donizetti
10 March—*National Emblem*.......... ......Bagley

OLIVER KIMBALL, *Acting Musical Director.*

A concert will be given at Paraiso, on Sunday, August 7.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

ATHLETIC MEET ON LABOR DAY.

Plans are under way for an athletic meet, to be given under the management of the Y. M. C. A., on the Empire athletic field on Labor Day, September 5, 1910. A track is now being constructed by Mr. Fred Gorham, which, when finished will be the fastest and best track on the Isthmus. Regular track and field events will be run off and the prizes offered will consist of gold, silver and bronze medals of a special design. Entry blanks will he issued at once. Further particulars will appear in THE CANAL RECORD at a later date. The track meet will take place in the morning and bicycle races in the afternoon.

CULEBRA.

The winners in the tenpin contest on the opening night, July 11, were L. A. Mason, first; J. F. Warner, second; G. W. Huttlemier, third. The high score was made by C. A. McIlvaine.

The winners in the duckpin contest on July 12 were E. W. Tupper, first; E. W. Palmer, second; W. A. Lawlor, third.

EMPIRE.

The literary and dehating society will hold its first public debate on Friday night, the 22d. the subject being, "Resolved, that the American citizens resident in the Canal Zone and the natives of the towns be granted the right of local self government". The debaters will be Charles R. Williams, Mark Hall, Felix E. Porter, and A. L. Zacharias. The judges will be T. L. Clear, E. M. Goolsby, and Henry Seymour. Prior to the debate W. W. Warwick will read a paper on the laws passed by the Sixty-first Congress; musical numbers will be rendered by Mrs. M. G. Shivers, W. G. Ross, and Mr. McAnelly. Miss Leslie Henshaw will give a reading.

The Gorgona minstrels gave a creditable performance at the clubhouse on Friday night. The audience was one of the largest in years.

Among the 200 scores made on the bowling alleys last week were F. L. Gorham, 241, 203, 200; H. W. Sawtelle, 203, 207, 209, 201; G. E. Gustavson, 200, 248; J. A. Shaughnessey, 203.

Soffitt of Paraiso defeated DePoorter of Gatun in a match game of pool on Saturday night.

GORGONA.

The bowling tournament ended last week with "The Skeeters", Holderman, captain, winners of the five gold medals.

Baskethall will begin this week and all who go on the floor will he given a chance to learn the game. Every Monday and Thursday night at 8 o'clock there will be a twenty minute class in calisthenics.

CRISTOBAL.

Tuesday night the Gorgona minstrels gave a pleasing entertainment to a large audience. Thursday night the discussion cluh was led by Mr. W. H. Kromer.

Saturday night the Gorgona bowling team played the local team. The result was as follows:

Gorgona.				Cristobal.			
King	176	180	179	Louch	184	123	170
Lou	149	162	112	Grover	146	155	160
Borat	147	170	112	Rabbitt	153	168	133
Stoehr	105	164	144	Adams	209	135	197
Haldeman	130	143	130	Collins	183	165	143
Totals	707	819	677	Totals	875	746	803

The gymnasium schedule for the coming week is as follows: Boys' class, Monday, Wednesday and Saturday, 8.30 a. m.; senior class, Monday and Thursday, 8.00 p. m.· basketball practise, Tuesday and Friday nights. Thursday night the discussion club will be led by Physical Director Burrell, subject, "Exercise."

GATUN.

The smoker held at the clubhouse last Friday evening was the most successful social gathering for men only that has so far been given. The program included selections by the P. R. R. orchestra of Colon, impersonations by Private H. H. Guerard of Camp Elliott, tenor solos by Mr. Sam Perkins, and a half-hour of magic with Prof. Carl Steventon of England. The closing feature was the convening of the Gatun "Court", presided over by Francis Payne Selby. Acting Sheriff Carrigan had served subpoenas on several of the prominent men of Gatun who were given a fair trial, but were heavily "fined."

The "ragtime" bowling tournament which ended recently resulted as follows· First prize (gold medals) C. A. Harrington, H. M. Myers, score, 1,086; second prize (silver medals) H. E. Ruckert, John J. Luckey, score, 1084. The next five teams were: Barte and Luckey, 1,083; Kerr and C. R. Harrington, 1,075; Taylor and Gilmartin, 1,071; Lorener and Barte, 1,065; Hodges and Barte, 1,053. Seventy teams competed.

A group picture of a large number of the members of the Gatun Y. M. C. A. was taken on the steps of the clubhouse last Thursday at noontime. These pictures will be on sale in a few days. They will be sold in postal card form later on

The clubhouse has added to its equipment a fencing outfit consisting of foils, masks, gauntlets and plastoons.

A special committee met at the clubhouse on Saturday evening and made arrangements for the "Lord Mayor's Reception" to he held at the "City Hall" (clubhouse) on July 27.

The gymnasium classes meet this week on Tuesday and Thursday, instead of Monday and Wednesday.

T. G. DeMoll has returned from his vacation and will resume his night duties as supervisor of the bowling alleys.

PORTO BELLO.

The Gorgona minstrels came to Porto Bello on Saturday, the 16th, and put on its sixth performance at the Y. M. C. A. The hall was well filled and the show was greatly appreciated.

The gymnasium class held its first meeting on Thursday, the 14th. In the future the class will meet every Tuesday and Friday night from eight to nine o'clock.

Cold Storage Prices.

There are no changes in the prices of cold storage articles sold by the commissaries from those quoted in last week's issue of THE CANAL RECORD.

Rainfall, July 1 to 16, 1910, Inclusive.

MIDNIGNT TO MIDNIGHT.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—			
Ancon	2.19	10	6.94
Balboa	2.08	11	6.60
Miraflores	2.84	10	7.02
Pedro Miguel	2.27	10	6.01
Rio Grande	2.26	10	8.94
Central Section—			
Culebra	2.10	10	8.20
Camacho	2.48	11	8.08
Empire	1.60	10	5.82
Gamboa	3.21	3	11.48
Alhajuela	2.17	16	11.42
El Vigia	1.82	3	8.35
Gorgona	2.20	3	9.29
San Pablo	3.37	12	13.20
Tabernilla	2.73	10	10.69
Bohio	2.74	9	10.05
Monte Lirio	2.31	9	11.11
Atlantic Section—			
Gatun	3.44	9	12.32
Brazos Brook	3.05	9	15.38
Cristobal	3.56	10	12.96
Nombre de Dios	1.80	6	8.07

Supplies for Canal Work.

The following steamers, with supplies for the Isthmian Canal Commission, arrived at the ports of Cristobal, Colon, and Balboa, during the week ending July 16, 1910:

Gretavale, July 10, from Jacksonville, with 22,460 feet yellow pine piling for stock.

Colon, July 13, from New York, with 20 cases repair parts, 78 pieces galvanized pipe, 15 reels wire rope, 10 cases machinery for Atlantic Division; 6 cases motor parts, 8 cases electrical fittings for Pacific Division; 13 hogsheads crucibles, 6 cases crucibles for Mechanical Division; 40 wagon wheels, 12 cases repair parts, 54 cases tents, 40 bundles tent poles, 600 pieces sewer pipe, 52 barrels iron pipe fittings, 55 pieces iron pipe fittings, 90 cases paint, 80 bundles blotting paper, 398 cases bolts and nuts, 15 cases steel shafting, 52 crates stove pipe for stock; and a miscellaneous cargo, the whole consisting of 1,780 packages, weighing 362 tons.

City of Panama, July 13, from San Francisco, with 19 cases lead pipe, 12 reels lead pipe for stock.

Turrialba, July 14, from New Orleans, with 248 tons dump car parts for Cristobal shops (for erection); 10 crates beds and springs, 5,570 feet piling, 9 cases electrical material, 418 yellow pine ties, 10 reels steel rope, 92,320 feet yellow pine lumber for stock.

Santa Marta, July 15, from New York, with 33 reels copper wire, 34 cases copper wire, 15 cases candles, 3,906 sacks oats, 38 barrels drift bolts for stock.

The following vessels arrived at and departed from the port of Balboa during the week ending July 16:

Arrivals—July 9, *Peru*, from south ports; July 11, *Guatemala*, from south ports, and *Arica*, from Guayaquil; July 12, *Chiriqui* from Buenaventura and Tumaco, *Oberon* from Port Harford, and *Ucayali*, from south ports; July 13, *City of Panama*, from San Francisco; July 14, *Manavi*, from intermediate ports.

Departures—July 12, *Peru*, for south ports; July 13, *City of Sydney* for San Francisco; July 15, *Oberon*, for Port Harford.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Ancon	P. R. R.	Wednesday	July 13
Panama	P. R. R.	Monday	July 18
Allianca	P. R. R.	Saturday	July 23
Colon	P. R. R.	Friday	July 29
Advance	P. R. R.	Thursday	Aug. 4
Panama	P. R. R.	Thursday	Aug. 11
Allianca	P. R. R.	Wednesday	Aug. 17
Colon	P. R. R.	Tuesday	Aug 23
Advance	P. R. R.	Monday	Aug. 29
Panama	P. R. R.	Saturday	Sept. 3
Allianca	P. R. R	Saturday	Sept. 10

CRISTOBAL TO NEW YORK.

Advance	P. R. R.	Saturday	July 23
Panama	P. R. R.	Saturday	July 30
Allianca	P. R. R.	Thursday	Aug. 4
Colon	P. R. R.	Wednesday	Aug. 10
Advance	P. R. R.	Tuesday	Aug. 16
Panama	P. R. R.	Tuesday	Aug. 23
Allianca	P. R. R.	Monday	Aug. 29
Colon	P. R. R.	Monday	Sep. 5
Advance	P. R. R.	Saturday	Sep. 10

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible, leaving Cristobal on or about the 4th and 25th of each month. Due notice of the sailings of these ships from the Isthmus will he given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

NEW YORK TO COLON

Metapan	U. F. C	Thursday	July 14
Prinz Joachim	H.-A	Saturday	July 16
Zacapa	U. F. C.	Thursday	July 21
Atrato	R.-M.	Saturday	July 23
Almirante	U. F. C.	Thursday	July 28
Prinz Aug. Wilhelm	H.-A	Saturday	July 30
Santa Marta	U. F. C.	Thursday	Aug. 4
Tagus	R.-M.	Saturday	Aug. 6
Metapan	U. F. C.	Thursday	Aug. 11
Prinz Joachim	H.-A	Saturday	Aug 13
Zacapa	U. F. C.	Thursday	Aug 18
Oruba	R.-M.	Saturday	Aug. 20
Almirante	U. F. C.	Thursday	Aug. 25
Prinz Aug. Wilhelm	H.-A	Saturday	Aug. 27
Magdalena	R.-M.	Saturday	Sept. 3

COLON TO NEW YORK.

Santa Marta	U. F. C.	Friday	July 22
Tagus	R.-M.	Wednesday	July 27
Metapan	U. F. C.	Friday	July 29
Prinz Joachim	H.-A	Tuesday	Aug. 2
Zacapa	U. F. C.	Friday	Aug. 5
Oruba	R.-M.	Wednesday	Aug. 10
Almirante	U. F. C.	Friday	Aug. 12
Prinz Aug. Wilhelm	H.-A	Tuesday	Aug. 16
Santa Marta	U. F. C.	Friday	Aug. 19
Magdalena	R.-M.	Wednesday	Aug. 24
Metapan	U. F. C.	Friday	Aug. 26
Prinz Joachim	H.-A	Tuesday	Aug. 30
Zacapa	U. F. C.	Friday	Sept. 2
Clyde	R.-M.	Wednesday	Sept. 7

NEW ORLEANS TO COLON.

Abangarez	U.F.C.	Saturday	July 16
Atenas	U.F.C.	Saturday	July 23
Turrialba	U.F.C.	Saturday	July 30
Abangarez	U.F.C.	Saturday	Aug. 6
Atenas	U.F.C.	Saturday	Aug. 13
Turrialba	U. F. C.	Saturday	Aug. 20

COLON TO NEW ORLEANS.

Turrialba	U.F.C.	Thursday	July 21
Abangarez	U.F.C.	Thursday	July 28
Atenas	U.F.C.	Thursday	Aug. 4
Turrialba	U F.C.	Thursday	Aug. 11
Abangarez	U.F.C.	Thursday	Aug. 18
Atenas	U.F.C.	Thursday	Aug. 25

COLON TO BARBADOS, CALLING AT TRINIDAD

Atrato	R.-M.	Tuesday	Aug. 2

The next sailing of the Leyland Line will be as follows: *Meltonian*, July 23, for Tampa, via Kingston, Ja.

Hamburg-American steamers leave for New York at 10 a. m., and for Port Limon every Tuesday or Wednesday.

Royal Mail steamers leave for New York on alternate Wednesdays at 10 a. m., for Southampton on alternate Tuesdays at 10 a. m,

United Fruit Company ships for New Orleans leave on Thursday at 3 p. m., and for New York on Friday at 10 a. m.

Sailings of the French line (Cie. Gènèrale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

CANAL RECORD

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THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Ditching Machine for Relocated Line.

Authority has been granted for the purchase of a "railroad ditching machine," to be used on the relocated line of the Panama railroad. on which there will be considerable ditching along the right-of-way for several years to come. The machine will cost less than $6,000. In operation the "ditcher" resembles a steam shovel. It travels on its own track over the tops of flat cars composing a work train, loading from either side of the train as it goes along. It is self-propelling, can turn a complete circle, and is controlled by one man. The capacity is from 45 to 90 cubic yards an hour. On the relocated line its chief use will be in connection with Lidgerwood flat trains. After the plough has unloaded the cars the "ditcher" will be used in spreading the spoil, instead of the large gangs of laborers now necessary.

Houses in Lake Region Exposed to Floods.

Occupants of houses in the Gatun Lake region likely to be flooded by a freshet in the Chagres River will be warned to move to higher ground. The warning is necessary at this time because the impounding of the river by Gatun Dam to 10 feet above sea level exposes land to inundation that prior to the damming of the river was reasonably safe. A policeman and a surveyor will go through that section of the region likely to be affected and warn the inhabitants at the following places, occupying land at, or below, the following elevations:

Tabernilla	40 feet above sea level
Frijoles	35 feet above sea level
Bohio	30 feet above sea level
Ahorca Lagarto	28 feet above sea level
Gatun	25 feet above sea level

In the event of a freshet as great as that of last December the elevations exposed to flooding at Tabernilla, Frijoles, and Bohio would probably be ten feet above those given in the table, and at Ahorca Lagarto and Gatun, five feet above. With the water at elevation 25 feet above sea level at Gatun, the water would encroach upon several settlements in the Trinidad River valley, outside the line of the Canal Zone, would probably submerge a considerable portion of the village of Agua Clara within the Zone, flood the main line of the Panama railroad between bridges 23 and 33 (Tiger Hill and Bohio), and touch the tracks at a low point about halfway between bridges 42 and 43 (Frijoles and Tabernilla).

Immediately after the occupants of the exposed lands are directed to vacate, such leases as are held from the Panama Railroad Company or the Commission will be cancelled and settlement with the lease holders will be effected in the usual way.

Pressure at Locks Due to Tidal Action and Density of Salt Water.

A board consisting of Lieut.-Col. H. F. Hodges, Assistant Chief Engineer; Maj. Chester Harding, Assistant Division Engineer of the Atlantic Division, and John M. G. Watt, Assistant Division Engineer of the Pacific Division, has been appointed by the Chief Engineer to consider and report what special means, if any, are needed at the gates near the lower end of the Gatun and Miraflores Locks to overcome the differences in pressure resulting from tidal action and from the difference in density of the fresh water above the locks and the salt water below them.

Commissary at Miraflores.

Authority has been granted for the conversion of one of the buildings at Miraflores into a small commissary store, such as has recently been established at San Pablo.

Family Quarters at Corozal and Gatun.

Six of the type 15-houses in what is known as "Steam shovel row" at Culebra have been razed, and two have been transported to Corozal and four to Gatun, where they will be erected as type-17 quarters. The type-15 house is a one-story, one-family building, with a screened veranda in front from which two doors open, one into a sitting room, 14 feet 6 inches by 13 feet 4 inches, and one into a bedroom of the same size. Back of these rooms is a screened porch running the width of the building used commonly as a dining room. The toilet room and the kitchen are entered from this porch. In erecting the buildings at Gatun and Corozal this porch will be boarded in, and other small alterations will be made, changing the type to No. 17. At Corozal there are now only two applicants on the No. 1, or preferred list, and at Gatun only 3.

Building Improvements.

Several alterations are to be made in the offices of the circuit court at Ancon. The public entrance, which is now through the office of the Judge at one end of the building, will be changed to the front, facing the road that extends through the old corral site, to which a sidewalk will be laid. The new entrance will open into the office of the circuit court clerk, and his desk space will be separated from the public by a railing fitted with a desk top, so that it can be used for writing purposes.

The work of reconstucting the houses, destroyed by fire at Nombre de Dios a few months ago, is proceeding rapidly. Over 50 buildings have been finished to date.

Oxy-Acetylene Welding and Cutting Plant.

It has been determined to purchase an oxy-acetylene welding plant to be installed at the Gorgona shops, with tanks and torches for the shops at Empire, Cristobal, Porto Bello, and Balboa. The four portable outfits can be sent to adjacent points for quick repair work. Upon the completion of the Canal the plant will be available for work in such permanent shop, as may be established on the Isthmus.

The Dike from Gatun to Mindi.

In past rainy seasons when the Chagres River was in flood the water spread over the flat land at Gatun and found its way to the sea through the French canal, the Mindi River, and by overflowing the flats, in addition to the main stream which is carried off by the river channel proper out past Fort San Lorenzo. A fill of 550,000 cubic yards was made in the French canal and the dredged channel of the American Canal during the floods of last November, and the heavy current that set in prevented the free use of the French canal by the material barges carrying rock, sand, and cement to the locks at Gatun.

To prevent a recurrence of last season's experience, and to protect the American Canal for all time against fills from this source, a dike has been built from the north or downstream toe of Gatun Dam, practically parallel with the American Canal, to a hill at Mindi. Thus the water that flows through the spillway will be confined to the section west of the dike and will flow out to sea by way of San Lorenzo. The dumping of material was begun five months ago and the dike is now practically finished. It is one and one-half miles long and extends from the hill in the center of the Dam, known as Spillway Hill, to one of the Mindi hills. The top at the Dam is 25 feet above sea level; at Mindi, 21 feet above, and the ruling height is 20 feet. About 150,000 cubic yards of miscellaneous spoil, principally from the lock site at Gatun, were dumped during the construction, which was carried on by running a track through the swamp and jungle and raising it as the dump increased in height.

The west or river side of the dike has been covered with clay which will act as waterproofing. The ridge of rock and earth which forms the dike runs through as tangled a piece of swampy jungle as will be found on the Isthmus, rich in plant and insect life and made noisy, when a human being disturbs the place, by the chattering of monkeys and the screeching of paroquets. At the point where the

NOTES OF PROGRESS.

(Continued.)

dike crosses the old river channel it was broadened into a substantial dam of rock and earth.

Twenty-five feet above sea level was made the controlling height, because it is not believed that the water will rise above that point even in the highest flood. In the historic flood of 1879 a record of 23 feet above sea level was made at Gatun, but this may not be accurate because the recording was not systematic. In November, 1909, 22 feet were recorded at Gatun. Since the water has been confined in the lake at about 10 feet above sea level and forced to flow through the Spillway of the Dam, none of the old records are infallible as a guide to future floods. The surface of the stream running through the Spillway at low water is about 14 feet above sea level. It is believed, however, that the dike is higher than the water is likely to rise north of the Dam. In order that it may be raised higher, in case the water should go above 20 feet during the construction of the Canal, the track will be left on the dike so that spoil can be dumped there at any time.

Porto Bello Crusher.

A statement of the work done at Porto Bello crusher, by days, for the week ending July 23, follows:

DATE.	Hours worked.	Cubic Yards.
July 18	9:40	2,166
July 19	11:40	2,740
July 20	10:28	2,096
July 21	13:58	2,570
July 22	12:00	2,415
July 23	12:00	2,551
Total	69:46	14,538

Ancon Rock Crusher.

A statement of rock crushed at Ancon quarry during the weeks ending July 16 and 23, respectively, follows:

DATE.	Hours worked.	Cubic Yards.
July 11	5:15	1,368
July 12	6:20	1,440
July 13	4:10	876
July 14	4:40	1,116
July 15	6:05	1,560
July 16	7:05	1,668
Total	33:35	8,028

DATE.	Hours worked.	Cubic Yards.
July 18	5:15	1,110
July 19	6:00	2,345
July 20	7:30	2,305
July 21	6:45	2,275
July 22	4:25	2,040
July 23	6:15	2,130
Total	36:10	12,205

Families in Nonhousekeeping Quarters.

Buildings erected at points along the Canal where the work is diminishing or is completed are being utilized at various other points where the working force is either increasing or where for sometime there has been a lack of quarters. In addition to this actual moving of buildings, the Quartermaster's Department has adopted the plan of permitting employes working at points where there are no family quarters available to occupy nonhousekeeping family quarters wherever they are vacant. Eighty-six families are now accommodated in this way at Culebra, Empire and other stations where the demand for quarters has become stationary. Owing to the development of the work at Gatun, a labor train is run morning and evening between Culebra and Gatun, and 46 of the employes at that point are thus enabled to have their families housed at other points on the line, principally Empire and Culebra. The increase in the work at Gorgona shops has resulted in a demand for quarters and 26 families are housed in nearby villages. Families of eight employes at Paraiso, four at Las Cascadas, one at Miraflores, and one at Balboa are housed in this way. The total number of families thus quartered at the present time is 84.

Concrete Operations at Miraflores.

The concrete operations for the week ending July 23, and the total placed to that date in the Miraflores Locks are shown in the following table:

	AUXILIARY PLANT.		
	½-Cubic yard mixers	⅓-Cubic yard mixer	Total
July 18	42	33	75
July 19	66	13	79
July 20	76	30	106
July 21	61	33	94
July 22	74	42	116
July 23	97	35	132
Totals	416	186	602
Previously reported	....	....	3,387
Grand total	....	....	3,989

Concrete Work at Pedro Miguel.

A total of 10,406 cubic yards of concrete was laid in the Pedro Miguel Locks during the week ending July 23, a gain of 1,984 cubic yards over the previous best weekly record at this point. The record for each of the 8-hour working days follows:

	CUBIC YARDS.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
July 18	1,622	110	32	1,764
July 19	1,432	240	25	1,697
July 20	1,294	172	3	1,469
July 21	1,528	144	....	1,672
July 22	1,774	214	10	1,998
July 23	1,578	208	20	1,806
Totals	9,228	1,088	90	10,406
Previously reported	....	....	1,975	188,704
Grand total	....	....	2,065	199,110

Concrete Laying in Gatun Locks.

A statement of the concrete laid in Gatun Locks during the week ending July 23, and of the total laid to that date, follows:

	Construction plant.	Auxiliary plant.	Large stone.	Total
July 18	2,264	884	200	3,348
July 19	2,220	1,116	204	3,540
July 20	2,446	872	85	3,403
July 21	2,096	974	303	3,373
July 22	2,048	894	289	3,231
July 23	1,864	970	303½	3,137½
Totals	12,938	5,710	1,384	20,032½
Previously reported	....	....	....	556,871½
Grand total	....	....	....	576,904

LOCK WORK AT MIRAFLORES.

Concrete Operations Started There on May 30 With Auxiliary Equipment.

Concrete operations in the upper lock at Miraflores were begun on May 30 with part of the auxiliary mixing plant formerly in use at the Pedro Miguel Locks. At present there are two ½-yard mixers and one ⅓-yard mixer in service. Three additional ½-yard mixers of the cube type have recently been ordered from the States, and two 2-yard mixers similar to those in use in the permanent construction plant at Pedro Miguel will be installed near the north end of the east storage trestle. These two mixers will be operated by electricity and will deliver into buckets, which will be hauled on cars to a track under the boom of the east berm crane, and the concrete will be placed by the latter in the east wall. The mixers will be so located in the trestle that cars of crushed rock and sand can be dumped directly into their hoppers.

The lock work at Miraflores now consists of drilling, blasting and excavating for the lateral culverts and the intermediate gate section, and the laying of concrete in the trenches already excavated and in the lock floor. The latter ranges in thickness from one foot, where the original bottom remains undisturbed, to five feet where holes have been caused by blasting. Raw material for the concrete is dumped into small storage piles in the lock and conveyed in wheelbarrows to the mixers, which are stationed alongside the culvert trenches to enable them to deliver directly on the near side, or into a chute for conveyance to the far side. The mixers, including the motive equipment, are set upon rollers, so that they can be moved forward and backward at will.

Excavation of the trenches and intermediate gate section is proceeding by means of two derricks and two locomotive cranes, the material being shoveled by hand into 2½-yard skips, thence dumped into cars and hauled away. At present the spoil is used in the construction of an embankment which will carry the new hydraulic pipe-line to the fill of the west dam.

It is proposed to continue the building of the floor and culvert section and to complete it in advance of the work on the walls. One of the berm cranes on the east bank, which will form a part of the permanent construction plant at this point, has been erected, and will be placed in service shortly, hoisting material into cars from the east head wall at the north end of the lock, where considerable excavation remains to be done.

The dumping of crushed rock and sand from the 500-foot west storage trestle was begun a few days ago, and dumping from the east trestle will probably be commenced this week. The storage capacity of the two trestles represents about one-fourth of the crushed rock and sand required in the construction of these locks.

The water that enters the lock chambers, or collects from rains, now flows into a large sump at the south end of the lock, from which it is expelled by two motor-driven pumps, one an 8-inch and the other a 12-inch. These took the place of two old French pumps formerly in service there.

Launch Service to Taboga.

The steamer *Sanidad* leaves the dredge landing at Balboa at 9 o'clock Tuesday, Thursday and Saturday mornings. On the return trip it arrives at Balboa about 4.30 p. m. in time to make connections for the 5.30 train at Panama.

SCHOOL CONSOLIDATION.

Plan Approved for Schools for White Children.

A plan of consolidation for the Canal Zone public schools for white children has been approved, the chief changes being: (1) Consolidation of schools at Colon Beach and Cristobal into one school at Cristobal, and construction of a new school building at Cristobal; consolidation of the school at Las Cascadas with that at Empire and the construction of an addition to the Empire school making it twice its present size; consolidation of Paraiso school with that at Pedro Miguel; consolidation of school at Corozal with that at Ancon, and addition of a second story to the schoolbuilding at Ancon. (2) Classes in first year high school subjects will be taught at Ancon. The approval is only tentative, and the buildings to be vacated will be held vacant until experience has demonstrated whether the consolidation works better than the plan in effect last year.

It has not yet been determined where the new schoolbuilding required at Cristobal will be situated. It will have ten rooms and will cost approximately $14,000. A brake will carry children from distant parts of Colon to the new school. Nine teachers will be engaged, including the principal, and a teacher of physical sciences. The high school work will be centered there, as during the past year, and children from points along the line of the Canal, excepting such first year pupils as can be taught at Ancon, will go to Cristobal by train each day.

A four-room addition will be made to the schoolbuilding at Empire, practically duplicating the present structure. Children will be brought to Empire from Las Cascadas by brake. All the work will be elementary, and there will be six teachers, including the principal.

No change will be necessary in the building at Pedro Miguel. The children will be brought from Paraiso by brake. It will be impossible to make the consolidation until the break in the highway at Pedro Miguel, occasioned by the slide on the relocation of the Panama railroad, has been repaired. There will be three teachers at Pedro Miguel when the consolidation is effected, and until then two will conduct the work, while one will hold school at Paraiso.

Children from Corozal and Balboa will be brought to the Ancon school in a brake. The addition to the present building will consist of four rooms, and there will be six teachers, including the principal, who will also conduct the classes in high school work. It is not the intention to establish a separate high school, but merely a branch of that at Cristobal, and the work will be so correlated that children who take their first year high school work at Ancon will be as capable of carrying on the second year work at Cristobal as those taught in the Cristobal school.

The teaching force for the year beginning October 1 will number 37, distributed as follows:

Cristobal, 9; Gatun, 3; Tabernilla, 1; Gorgona, 4; Empire, 6; Culebra, 3; Pedro Miguel, 3; Ancon, 6; substitutes, 2.

No kindergartens will be opened this year, because there is no apparent demand for them.

Stenographer and Typewriter Examination.

Ten sets of papers have been received for the examination for stenographer and typewriter for the Isthmian Canal service. This examination will be held at Culebra, on Sunday, August 7, 1910, at 9 o'clock a. m. All persons intending to enter this examination should make application at the earliest possible date, in order that they may be furnished the necessary forms and information.

JOHN K. BAXTER,
Secretary, Isthmian Civil Service Board, Culebra, C. Z.

Rain, Wind, and Electrical Storms.

A rain, wind, and electrical storm occurred at Culebra on July 19, beginning at 1.15 p. m. The precipitation for five minutes was 0.35 inches, for ten minutes, 0.62 inches, and for fifteen minutes, 0.72 inches. The rain was accompanied by thunder and lightning, and a wind which reached a velocity of 22 miles an hour. The storm was local.

On July 19, a similar storm, but of greater severity, passed over the territory of the Central Division, lasting from 12.30 p. m. until 1 p. m. At Culebra, 0.90 inches of rain fell, 0.86 of which fell in 20 minutes. The wind reached a maximum velocity at 12.40 p. m. of 38 miles an hour from the north. The greatest wind previously recorded at Culebra was on July 11, 1909, when the maximum velocity was 36 miles an hour. These records are since the installation of the anemometer. Other points in the Central Division reporting excessive rainfall were: Empire, thirty minutes, 1.53 inches; Gamboa, thirty minutes, 0.50 inches; Alhajuela, thirty-four minutes, 0.86 inches; Bohio, seventy minutes, 1.56 inches.

Visit of the President of Chile.

His Excellency, the Hon. Don Pedro Montt, President of Chile, arrived in Panama Harbor on the Chilean cruiser *Esmeralda* on the morning of July 25. In the afternoon he landed at the Marina steps in Panama and was received with ceremony by President Mendoza and his cabinet. The courtesies of the Republic of Panama and the Canal Zone were extended to him and his party, and at noon on July 26, he was the guest of honor at a luncheon given by the Chairman and Chief Engineer, Col. Geo. W. Goethals, and Mrs. Goethals, at their residence in Culebra. He leaves on the Royal Mail steamship *Tagus* for New York, Wednesday, July 27, and thence will sail for Europe. President Montt is traveling to Europe in the hope of regaining his health at one of the springs in Germany.

Allianca Delayed for Repairs.

The following cable message was received from the New York office of the Panama railroad on July 22:

> Replacement of two plates in *Allianca's* stern and repairs to stern frame by electrical welding will delay departure until Tuesday, July 26. Most of *Allianca's* passengers sail on *Cristobal* today. Those who can't wait until Tuesday will be forwarded our expense Royal Mail Steam Packet Company Saturday. *Cristobal* will carry refrigerator material and gold coin.

A Coin That May be Mistaken for Money.

THE CANAL RECORD:

The firm of S. Hernandez & Co. has issued, as an advertisement of their cigarettes, a gilt coin which is evidently made from an impression of our new Indian head $5 gold piece. On the head side appears the wording "Obsequio-Cigarillos, S. Hernandez & Co." and on the eagle side "Amor en el Sueño, la flor de Guayaquil."

The coin is light weight, but the workmanship is very good and under some circumstances might be passed for genuine money. Persons should be very careful to examine closely all of the new $5 gold coins which they may receive, in order that none of the imitations be passed on them.

EDWARD J. WILLIAMS,
Disbursing Officer.

Empire, C. Z., July 23, 1910.

Cyclopean Concrete at Gatun.

Rock dug out of Culebra Cut is being used in the concrete of Gatun Locks, adding weight to the massive gravity sections, acting as reinforcement, and reducing the cost of the lock construction. Only the hard rock from the dikes at Bas Obispo and Empire is used. Two plants have been established to get it ready, one of them on the north toe and one on the south toe of the Dam, both near the lock site.

The primary object of bringing the rock from Culebra Cut to Gatun, a distance of 23 miles, is to build the toes of Gatun Dam, and it therefore arrives at the Dam as miscellaneous spoil that must be sorted in order to get rock suitable for the concrete. Trains that are loaded at the dikes referred to are shifted to the points on either toe where the sorting plants have been established and are dumped, all the rock not used for concrete being allowed to lie where it is dumped as it forms part of the dam.

At the plant on the north toe of the Dam a locomotive crane operating an orange peel dredge bucket is used to pick up suitable boulders and place them on skips carried by narrow gage cars. Boulders containing a cubic yard are frequently loaded in this way, but the usual run is smaller than that, although greater than one or two men could handle. From the sorting plant the rock is carried along the lock site on the industrial railway from the concrete mixing plant to the cableways; the skips are picked up by the cables and delivered wherever desired in the lock site. It is the intention to increase the capacity of this plant by laying a standard gage railway along the lock site parallel to the industrial railway, thus leaving the industrial line open to the exclusive use of the concrete trains. This plant supplied 6,808½ cubic yards of large rock up to July 13, inclusive.

At the plant on the south toe the rock is sorted and loaded by hand, and in consequence only "man size" pieces are handled from this point. These pieces are loaded on skips and into buckets, and are carried over the narrow gage railway, laid for handling the concrete from the auxiliary mixers, to the south forebay where the derricks erected there lift the skips or buckets over the forms. This plant had furnished 3,174 cubic yards of large rock up to July 13, inclusive.

When both the plants are running at their capacity about 450 cubic yards of large rock will be furnished each day to be embedded in the concrete, which will be about 15 per cent of the concrete placed.

Misdirected Letters.

ANCON, C. Z., July 27, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Atkinson, Wm.
Blake, Jas. W.
Boyd, S. J.
Brennan, C. F.
Brown, S. C. W.
Campbell, John
Choquette, M. D.
Decker, Elmer
Dins, August
Erwin, Master John
Fitts, Geo. B.
Geddes, Albert
Harrison, William
Harrison, W. C.
Hart, Claud
Heindrid, Amondus
Hogue, Wallace H.
Kimberly, Mrs. Wm.
Little, David J.
Louis, F. E.
Mathias, R. A.
McGillicuddy, Dr. Helen I.
Doherty-
Sheperd, Mrs. F. K.
Willette, Henry
Williams, Miss Anna

FUNDS FOR CANAL WORK.

Appropriation for 1911, and Total of Appropriations for Past Years.

Provision for carrying on the Canal work during the fiscal year beginning July 1, 1911, was made by Congress in the Sundry Civil Act of June 25, 1910. The appropriation amounts to $37,855,000 divided into the following items:

Salaries of officers and employes in the United States	$140,000
Incidental expenses in the United States	70,000
Salaries of Commission, officers, employes on the Isthmus, other than skilled and unskilled labor, in the Departments of Construction and Engineering, Quartermaster's, Subsistence, Disbursements, and Examination of Accounts	3,900,000
Skilled and unskilled labor on the Isthmus in the Departments of Construction and Engineering, Quartermaster's, Subsistence, Disbursements, and Examination of Accounts	13,500,000
Materials, supplies, and equipment, and other expenses not in the United States for the Departments of Construction and Engineering, Quartermaster's, Subsistence, Disbursements, and Examination of Accounts	15,000,000
Miscellaneous expenditures, recruiting laborers, transporting laborers and other employes, and expenses not otherwise provided for in the Departments of Construction and Engineering, Quartermaster's, Subsistence, Disbursements, and Examination of Accounts	900,000
Salaries of officers and employes, other than skilled and unskilled laborers, Department of Civil Administration	600,000
Skilled and unskilled labor, Department of Civil Administration	20,000
Materials, supplies, etc., and contingent expenses, Department of Civil Administration	100,000
Survey of lands in the Canal Zone	75,000
Salaries of officers and employes, other than skilled and unskilled laborers, Department of Sanitation	600,000
Skilled and unskilled labor, Department of Sanitation	200,000
Materials, supplies, etc., and contingent expenses, Department of Sanitation	750,000
Relocation of Panama Railroad	2,000,000
Total	$37,855,000

The entire appropriation is available until expended; ten per cent of each item may be used interchangeably, but not more than ten per cent added to any one item.

The law further provides:

That all expenditures from the appropriations herein and hereafter made for the Isthmian Canal shall be paid from, or reimbursed to the Treasury of the United States out of the proceeds of the sale of bonds authorized in section eight of the said act approved June twenty-eighth, nineteen hundred and two, and section thirty-nine of the tariff act approved August fifth, nineteen hundred and nine.

* * * * * * * * * *

No part of the foregoing appropriations for the Isthmian Canal shall be applied to the payment of allowances for longevity service, or layover days, other than such as may have accumulated under existing orders of the Commission, prior to July first, nineteen hundred and nine.

Section 2. The foregoing appropriations shall be available to reimburse the Panama Railroad Company for marine losses and for losses due to destruction of or damage to its plant, equipment or commissary supplies by fire: *Provided*, That the Panama Railroad Company shall carry no insurance against loss from causes covered by this appropriation: *Provided further*, That, hereafter, payment by the Panama Railroad Company to the United States, in accordance with the treaty with Panama, of the annual subsidy of two hundred and fifty thousand dollars, as provided by the concession granted by the United States of Colombia, shall not be required.

Section 3. All funds collected by the government of the Canal Zone from rentals of public lands and buildings in the Canal Zone and the cities of Panama and Colon, and from the Zone postal service, and from court fees and fines, and collected or raised by taxation in whatever form under the laws of the government of the Canal Zone, are hereby appropriated until and including June thirtieth, nineteen hundred and eleven, as follows: The revenues derived from the postal service to the maintenance of that service; the remaining revenues, after setting aside a miscellaneous and contingent fund of ten thousand dollars, to the maintenance of the public school system in the Zone; to the construction and maintenance of public improvements within the Zone; to the maintenance of administrative districts; to the maintenance of Canal Zone charity patients in the hospitals of the Isthmian Canal Commission, and to the maintenance of administrative district prisoners. A detailed and classified statement of all receipts and expenditures without the duplication of items under this paragraph, shall be submitted to Congress after the close of the fiscal year nineteen hundred and eleven.

Section 4. All funds realized during the fiscal year nineteen hundred and eleven by the Isthmian Canal Commission from the performance of services by the Commission, or from rentals, or from the sale of materials and supplies under the custody or control of the Commission, are appropriated for expenditure under any of the foregoing classified appropriations for the Department of Construction and Engineering, and a full and separate report in detail of all transactions hereunder shall be made to Congress.

Section 5. Hereafter there shall be submitted under each item of appropriation, proposed in the annual estimates for construction of the Isthmian Canal, notes giving in parallel columns information which will show the number, by grade or classes, of officers, employes, and skilled and unskilled laborers proposed to be paid under each of said appropriations for the ensuing fiscal year and those being paid at the close of the fiscal year next preceding the period when said estimates are prepared and submitted; also, in connection with each item for material and miscellaneous purposes, other than salaries or pay for personal services, the amounts actually expended or obligated for like purposes during the entire fiscal year next preceding the preparation and submission of said estimates.

Section 6. Hereafter the statement of the proceeds of all sales of old material, condemned stores, supplies, or other public property of any kind shall be submitted to Congress at the beginning of each regular session thereof as a separate communication and shall not hereafter be included in the annual Book of Estimates.

The new law omits the provision in the Sundry Civil Act for 1910, which permitted the expenditure for the Department of Construction and Engineering of any surplus in the various items of the appropriation.

Section 2 contains, in addition to the provisions of the Act of 1910, the provision abrogating the annual payment of $250,000 to the United States by the Panama Railroad Company. This annual payment was originally made to Colombia, and was the compensation for the concession to the railroad provided for in article 3 of the concessionary contract of 1867, reformative of the contract of 1850. In 1903, upon the establishment of Panama as an independent nation, this annual payment became due to Panama, but in article 22 of the treaty of 1904, between the United States and Panama, all rights or claims of a pecuniary nature relating to or arising under the concession to the railroad were renounced and granted to the United States. On recommendation of the Secretary of War this annual payment has been done away with.

Section 3 is altered by the omission of the word "hereafter" in the first phrase between the words "all funds" and "collected."

Section 4 is changed in the phrase "or from the sale of materials and supplies under the custody or control, etc." by substituting the conjunction "or" for "and" between the words "custody" and "control."

Sections 5 and 6 are new provisions.

A statement follows showing the appropriations by Congress for the Isthmian Canal, separated by the different Acts, and showing the total amount appropriated:

Act of Congress Approved.	Appropriation.	Deficiency.
June 28, 1902	*$40,000,000.00	....
May 28, 1904	†10,000,000.00	....
June 28, 1902	10,000,000.00	....
December 21, 1905	11,000,000.00	....
February 27, 1906	....	$5,990,786
June 30, 1906	25,456,415.08	....
March 4, 1907	27,161,367.50	....
February 15, 1908	....	12,178,900
May 27, 1908	29,187,000.00	....
March 4, 1909	....	5,458,000
March 4, 1909	33,638,000 00	....
February 25, 1910	....	76,000
June 25, 1910	37,855,000.00	....
Total	$224,297,782.58	$23,703,686
Grand total	$248,001,468.58	

*For purchase of Canal rights.

†For purchase of Canal Zone rights.

LABOR FORCE AND QUARTERS IN JUNE.

On June 29 there were 35,578 employes actually at work on the Canal and the Panama railroad, and of this number, 29,084 were Canal employes. The gold force on the Canal work, composed almost entirely of white Americans, was 4,367. No labor recruiting was necessary during the month.

The report of the Chief Quartermaster for June shows that the number of family quarters occupied by "gold" employes was 1,686, which is 14 less than in May, and the occupants numbered 5,048, a decrease of 53. Of this number, 1,731 were women, and 1,640, children. Bachelor quarters occupied by "gold" employes numbered 1,926 and the occupants numbered 3,566, of whom 143 were women. The family quarters, occupied by European laborers numbered 315, and the occupants, 906; bachelor quarters, 124, and the number of occupants, 5,781. The family quarters occupied by West Indians numbered 1,067, and the occupants, 3,447; bachelor quarters, 225, and the number of occupants, 4,925.

The following statement shows the Canal force actually at work on June 29:

Department.	Monthly.	Artisans.					European Laborers.		West Indian Laborers.					Total Silver.	Total Gold.	Grand Total.
		44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 cents.			
Const'ct'n and Eng'r'ng.	4,124	18	34	289	646	2,415	3,070	1,878	111	521	2,965	3,564	278	19,913	3,271	23,184
Civil Administration	182	..	..	2	4	18	......	......	...	.....	......	3	....	209	335	544
Sanitation	692	..	..	3	4	4	2	1	1	.....	5	325	6	1,043	360	1,403
Quartermaster's	1,047	5	3	55	161	174	282	107	36	.....	36	1,011	....	2,917	237	3,154
Subsistence	619	..	..	1	1	......	......	......	...	.....	......	......	....	621	53	674
Disbursements	8	..	..	....	.....	......	......	......	...	.....	......	......	....	8	21	29
Examinat'n of Accounts.	6	..	..	....	.....	......	......	......	...	.....	......	......	....	6	90	96
Totals	6,678	23	37	350	816	2,611	3.354	1,986	148	521	3,006	4,903	284	24,717	4,367	29,084

Panama railroad force, 3,409; Panama railroad relocation force, 2,102; Panama railroad commissary force, 983. **Total**, 6,494.

Fund for Hose Race on Labor Day.

A special request is made by Volunteer Fire Company No. 3 of Gatun, that each volunteer company in the Canal Zone contribute the sum of $25 toward a hose race to be held on Labor Day.

EDWARD SPEARMAN,
Secretary, No. 3 Company.

Gatun, C. Z., July 22, 1910.

CANAL ZONE CHURCHES.

List Now Numbers 39, of Which 26 are Owned by the Commission—Chaplains and Their Duties.

Church work in the Canal Zone was authorized by the Isthmian Canal Commission on October 4, 1905. The first church building authorized by the Commission was the Roman Catholic chapel in the hospital grounds at Ancon, which was begun in November, 1906. In January and February of the year following, church and lodge buildings were constructed at Gorgona and Cristobal, and at Gatun and Paraiso in April and October of the same year. In April and July, 1908, buildings of the same type were constructed at Empire and Las Cascadas. In July, 1908, work on the Episcopal chapel in the Ancon hospital grounds was begun.

It has been the policy of the Commission from the beginning to encourage church work, because it is considered a strong influence in making for the stability of the working force, and the good order of the Canal villages. Land has been granted for church buildings, and building material has been sold at cost to aid in establishing places of congregation for church people. In seven of the larger communities two-story buildings have been erected, one story for use as a church, for such congregations as wish to hold services there, and the other story for use as a lodge hall. Services of a religious nature are also held in the Commission clubhouses under the auspices of the Y. M. C. A.

The Commission requires that there shall be resident chaplains for Ancon and Colon hospitals. Beside these, there are visiting chaplains, not to exceed five in number. The duties of the resident chaplain are to hold religious services, to visit the wards of the hospital to which he is assigned daily, giving patients who desire to talk an opportunity to do so; to write letters for patients, when desired, and to hold services, upon request of the superintendent of the hospital, over the bodies of patients dying in the institution. The resident chaplain is an officer of the hospital and is under the authority of the superintendent. It is the duty of the visiting chaplains to perform such services connected with their calling as the superintendent may require.

A list of the church buildings in the Canal Zone, compiled by the Quartermaster's Department, is published below. The (*) which in some instances follows the names of the churches indicates that they are owned by the Isthmian Canal Commission, and the (†) indicates that services are conducted by a chaplain in the pay of the Commission. Buildings not so marked are owned by private corporations, such as the Roman Catholic Bishop of Panama, the Protestant Episcopal Church of the United States, and the Home Mission Board of the Baptist Convention:

LOCATION.	Name.	Denomination.
Ancon	Hospital chapel*†	Catholic
Ancon	Hospital chapel*†	Episcopal
Balboa	Balboa Catholic Church.	Catholic
Pedro Miguel	National Baptist*	Baptist
Paraiso	Lodge Hall—Church*	Nondenom.
Paraiso	St. Augustine*	Episcopal
Cartagenita	Episcopal	Episcopal
Cucaracha	National Baptist*	Baptist
Cucaracha	Episcopal*	Episcopal
Culebra	Holy Redeemer	Catholic
Culebra	St. Mark's	Episcopal
Culebra	Baptist*	Baptist
Culebra	Lodge Hall—Church*†	Nondenom.
Cunette	Colored Baptist*†	Baptist
Empire	Ebenezer*	Wesleyan
Empire	Lodge Hall—Church*†	Nondenom.
Empire	St. Mary's	Episcopal
Empire	St. James	Episcopal
Empire	Catholic*†	Catholic
Las Cascadas	Catholic*	Catholic
Las Cascadas	St. Philips*†	Episcopal
Las Cascadas	Baptist*†	Baptist
Las Cascadas	Lodge Hall—Church*†	Nondenom.
Bas Obispo	Ascension	Episcopal
Gorgona	St. Andrews*	Episcopal
Gorgona	St. Gayton*	Catholic
Gorgona	Lodge Hall—Church*†	Nondenom.
Jamaicatown	Baptist*†	Baptist
Tabernilla	Nativity*	Episcopal
San Pablo	St. Peter*	Episcopal
Bohio	Methodist*	Methodist
Frijoles	Baptist	Baptist
Gatun	Santa Rita	Catholic
Gatun	Wesleyan	Wesleyan
Gatun	Episcopal†	Episcopal
Gatun	Lodge Hall—Church*†	Nondenom.
Cristobal	Lodge Hall—Church*†	Nondenom.
Cristobal	Salvation Army*	Nondenom.
Cristobal	Seventh Day Adventist	Seventh Day Adventist

Of the 39 church buildings in the list, 26 are owned by the Isthmian Canal Commission, and all but two are built on land owned by the United States, which holds 30 of the sites under the Commission and 7 through the Panama Railroad Company. The two exceptions are the Wesleyan church at Gatun, and the Episcopal Church at Bas Obispo.

Services at the churches indicated as nondenominational are held by regularly ordained ministers or lay readers, and are attended by persons of all Christian sects. The Commission chaplain of the Roman Catholic Church at Empire is also charged with making a weekly visit to the leper settlement at Palo Seco.

There are fifteen chaplains in the Commission service, their names, post-office addresses, and the denomination in which they were ordained being as follows:

NAME.	Post-office Address.	Denomination.
Bryan, Henry B.	Ancon	Episcopal
Brown, Henry A.	Culebra	Episcopal
Cross, Wm. Norton	Gatun	Episcopal
Cooper, Edward J.	Colon H'spital	Episcopal
Loveridge, S. H.	Culebra	Baptist
Nellis, A. A.	Culebra	Baptist
Sobey, J. H.	Empire	Baptist
Wise, James L.	Gorgona	Baptist
Allot, Ferdinand	Empire	Roman Catholic
Quijano, Daniel	Ancon	Roman Catholic
Volk, José P.	Colon H'spital	Roman Catholic
Gray, William W.	Ancon	Methodist
Ports, Charles W.	Ancon	Methodist
King, M. Britton	Ancon	Wesleyan
Elliott, Carl H.	Cristobal	Presbyterian

Quartermaster's Department Sightseeing Trip

An excursion over part of the Canal work in the Central and Atlantic Divisions was run for the employes of the Quartermaster's Department on Sunday, July 24. A special train left Colon at 7 o'clock in the morning and picked up employes along the route as far as Culebra. The train, containing about 300 people, ran into Culebra Cut at Paraiso, and went slowly along the lower levels as far as Las Cascadas, when it ran onto the 95-foot level and crossed Gamboa bridge on the relocated line of the Panama railroad, running onto the main line again at Frijoles. At Gatun it was switched from the main line onto the track that runs across the valley on the south toe of Gatun Dam, running back to the main line across the north toe. Thence it was hauled alongside the lock site so that every one could see the concrete monoliths already finished and part of the work that is in progress.

Burning of the Steamship Huallaga.

Information was received at the office of the Panama Railroad Company, on Wednesday, July 27, that the steamship *Huallaga*, one of the new vessels of the Peruvian Steamship Company, was totally destroyed by fire at sea near Huaimey, just south of Salaverry, Peru. Every one aboard was saved with the exception of two firemen. The Panama Railroad Company are the Isthmian agents of the Peruvian Company. The *Huallaga* left Balboa on her return trip to Ilo on July 21.

Fourth of July Celebration.

A statement of Fourth of July, 1910, finances up to July 20, follows:

Contributed for Ancon	$1,766.85
Contributed for Cristobal	2,376.75
Contributed without preference	1,519.48
Total	$5,663.08

Contributed by	Amount	Number employes on June rolls	Per capita
Subsistence Dept	$145.50	68	$2.14
Chief Engineer's Office	207.00	131	1.58
Dept. Civil Admin.	306.25	333	.92
Quartermaster's Dept	239.00	278	.86
Atlantic Division	1,085.50	1,390	.78
Panama Railroad Co.	727.75	1,125	.64
Pacific Division	419.50	697	.60
Disbursing Office	16.00	27	.60
Mechanical Division	412.75	753	.55
Sanitary Dept	168.85	407	.41
Examiner of Accounts.	44.50	114	.39
Central Division	332.50	1,105	.30
Total	$4,105.10	6,428	0.654
Other than employes.	1,557.98		
Grand total	$5,663.08		

All of those who subscribed to the official celebration of July 4, and have not paid the amounts they subscribed for, are requested to send the money at once to Mr. E. J. Williams, Treasurer, at Empire.

International Bicycle Race.

An international bicycle race, distance 40 miles, will be held on the course at the Ancon baseball park on Sunday, August 21. Cash prizes will be awarded to the contestants finishing first, second, third and fourth, and in addition, a silver racing cup will be presented to the winner of the race, which will become his property after holding title three times.

Rainfall, July 1 to 23, 1910, Inclusive.

MIDNIGNT TO MIDNIGHT.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—			
Ancon	2.19	10	7.40
Balboa	2.08	11	7.10
Miraflores	2.84	10	10.61
Pedro Miguel	2.27	10	7.42
Rio Grande	2.26	10	12.15
Central Section—			
Culebra	2.10	10	12.35
Camacho	2.48	11	12.34
Empire	1.60	10	10.37
Gamboa	3.21	3	14.29
Alhajuela	2.17	16	13.13
El Vigia	1.82	3	10.69
Gorgona	2.20	3–10	11.12
San Pablo	3.37	12	15.99
Tabernilla	2.73	10	13.11
Bohio	2.74	9	13.53
Monte Lirio	2.31	9	16.23
Atlantic Section—			
Gatun	3.44	9	14.95
Brazos Brook	3.05	9	18.87
Cristobal	3.56	10	17.11
Nombre de Dios	1.80	6	10.62

SOCIAL LIFE OF THE ZONE.

Women's Clubs Open to All Women.

It is desired that the position of the women's clubs in the Canal Zone in regard to newcomers in the various villages where the clubs are organized be made known in these columns. The women's clubs were organized by official authority in September, 1907, and are not exclusive or social organizations. The general purpose of the clubs is to unite the women in social, educational, and philanthropic work. One club has adopted a pledge to which members must subscribe. Any newcomer who wishes to unite with the club in her village is, therefore, not expected to wait for an invitation from a club member to join the organization, but if she will make known her desire to come into the club, she will be heartily welcomed.

A meeting of the executive board of the Canal Zone Federation of Women's Clubs and conference of presidents will be held at Ancon on Monday afternoon, August 1, at 2.30 o'clock.

The Paraiso Woman's Club has arranged for a cake sale and informal dance to be held in the lodge hall the second week in August. Several features of special interest are promised. At a meeting of the club on Wednesday, July 20, papers were read on current events. The next meeting will be devoted to the reading of papers on women's work.

Church Work.

The date of the picnic to be held by St. Luke's Sunday school has been changed from July 28 to the following day, Friday, July 29. Pupils of the school and others wishing to attend will assemble at the church in Ancon Hospital grounds in the morning at 8 o'clock, where the Commission brake will be in readiness to take them to the landing stage at Balboa. The steamer *Sanidad* has been placed at the disposal of the school for the day and will leave Balboa for Naos Island at 9 o'clock. Those attending will bring basket lunches. The school treat will be held in the afternoon.

A cake sale and an informal dance will be held at Ancon Hall on Saturday evening, July 30, for the benefit of the organ fund of St. Luke's Church. Admission will be free. The entertainment is being arranged by the members of the Altar Guild.

A song service, with sermon, was held in the chapel at Paraiso on Wednesday evening, July 20, the Rev. Carl H. Elliott of Cristobal conducting.

A special service was held at the Commission chapel, Gatun, on Sunday morning, July 24, the Rev. A. A. Nellis of Culebra, preaching. There was music by a ladies quartet. The evening service was conducted by Mr. E. C. Soule.

Missionary Services at Pedro Miguel.

Rev. C. M. Anderson of the United Methodist churches will hold missionary services at Pedro Miguel on Sunday, July 31, consisting of a sermon at 11 a. m., and public meetings at 3 p. m. and 7 p. m. At the evening meeting several addresses will be made, including one on the growth of Christianity in East Africa. A cordial welcome is extended to all.

Royal Arch Masons.

A chapter of the Royal Arch Masons was organized at Las Cascadas on Saturday evening, July 23, under a charter granted by the General Grand Chapter of Royal Arch Masons of the United States of America. The officers elected are: High priest, C. A. Palmer; king, L. E. Williams; scribe, Carl P. Hoffman; secretary, J. B. Fields; treasurer, George E. Duckworth. The meetings will be held at Las Cascadas on the fourth Saturday evening in each month. This is the first chapter of Royal Arch Masons to be organized in South America.

Odd Fellows.

The following officers were installed by Isthmian Canal Lodge No.1, I. O. O. F., at Gorgona, on Tuesday evening, July 19: Noble grand, R. R. Robinson; vice grand, J. S. Boyd; treasurer, C. E. Whipple. H. W. Otis has been elected secretary and will be installed later. The officers appointed are as follows: Messrs. W. T. Clement, O. H. Kunce, D. J. Gaerste, Robert Varenkamp, H. Meyer, F. A. Gill, and H. L. Greeley.

The Daughters of Rebekah auxiliary lodge held an installation of officers on Thursday evening, July 21, the elective offices being filled as follows: Noble grand, Mrs. Annie Calvit; vice grand, Mrs. Louisa Lots; recording secretary, Mrs. Bessie Boyd; financial secretary, Mrs. Sallie Brown; treasurer, Mrs. Anna Hudson. At this installation Mrs. Eleanor Babbitt passed from the chair of noble grand to the chair of acting past grand.

On Friday evening, July 15, B. F. Sisson, district deputy grand sire; assisted by Olof W. Johnson, district deputy grand marshal; W. H. H. Brady, district deputy grand warden; J. P. Meade, district deputy grand secretary and Robert Houston, district deputy grand treasurer, instituted Gatun Lodge No. 5, I. O. O. F., at Gatun and installed the following elective officers: Noble grand, Robert N. Ferguson; vice grand, J. Frank Houston; secretary, Isaac Andrews; treasurer, H. C. Cooper. At a meeting held Saturday night, July 23, twenty-three candidates were initiated. The degree staffs, composed of members from Isthmian Canal Lodge No. 1 of Gorgona, Cristobal Lodge No. 2 of Cristobal, Canal Zone Lodge No. 3 of Culebra, and Pacific Lodge No. 4 of Ancon, were present and conducted the work in the several degrees. After the first degree refreshments were partaken of at the Commission hotel. The members then returned to the lodge hall and worked the second and third degrees.

The regular meetings of this lodge will be held at the Commission lodge hall every Friday evening at 8 o'clock. At the next regular meeting on Friday, July 29, the appointive officers will be installed. All members of the order in good standing are cordially invited to be present at any of the meetings.

Colon Humane Society.

The monthly meeting of the Colon Humane Society was held in the government building at Colon, on Sunday, July 17. The attention of the society has been called to the alleged practice of bringing children from Jamaica to the Isthmus where they are hired out for illegal practices and made virtually slaves to their masters. It was reported at the meeting that the offense is of frequent occurrence in Colon and measures were adopted to ascertain if this is true, and if it is, to put an end to the practice. Three members of the society were appointed to visit the different districts of the city and find out where such children are kept and were also authorized to take charge of these children and send them, if possible, back to their parents or guardians in Jamaica, or, failing in this, to place them in an orphan asylum in Panama. Other rules recently adopted by the society provide that drivers convicted of malpractice on their animals are to be fined and reprimanded for the first offense; for the second, a heavier fine is to be imposed; and for the third conviction, the offender is to be fined heavily and deprived of his license. The society has a membership of about 200, among them a large number of Americans residing in Colon and Cristobal.

PERSONAL.

Lieut.-Col. F. H. Hardie, U. S. A., retired, has been assigned to duty at the New York office of the Panama railroad as Inspector at Large.

Joseph A. LePrince, Chief Sanitary Inspector, has returned from his leave of absence, having arrived at Cristobal on the *Ancon* on July 21.

F. A. Gause, Superintendent of Schools, sailed for the States on his annual leave on the *Turrialba*, which left Colon on July 21.

Mr. Edward C. Sherman, Mrs. Sherman and Miss Hunt are among the passengers on the *Cristobal*, which sailed from New York at 5 p. m., on July 22, and is due in Cristobal on July 28.

Missing Men.

Information is desired concerning the whereabouts of Walter K. Cassell, a marine and stationary engineer, who is believed to have been employed on the Canal at one time. Any one having knowledge of him is requested to communicate with THE CANAL RECORD.

Information is desired by his brother, as to the whereabouts of George O. Williams, who was a sanitary inspector stationed at Culebra. Address Department of Sanitation, Ancon.

Mrs. S. W. Miller, 511 Cooper street, Jackson, Mich., would like to hear from her son T. F. Miller, at one time employed in the Central Division.

The American Legation in Panama is in receipt of a request from Baltimore as to the whereabouts of M. Robert Altman, presumably an employe of the Isthmian Canal Commission. Information as to the whereabouts of this man should be sent to R. O. Marsh, Charge d' Affaires, Panama.

OFFICIAL CIRCULAR.

Infants in Hospitals With Sick Mothers.

ANCON, C. Z., July 21, 1910.

TO ALL DISTRICT PHYSICIANS:

Attention is invited to circular from the office of the Director of Hospitals dated April 30, 1908, directing that nursing infants only be sent with sick mothers to hospital. The provisions of this circular have not been complied with, and you are directed in future to include in the transportation furnished this class of patients only such children, and to exclude bottle-fed and other children unless sick and in need of hospital treatment. In such cases a separate admission slip will be used and a separate hospital charge made.

Employes of this department in charge of hospital cars are directed not to receive children into their cars unless covered by admission slip to hospital.

JOHN L. PHILLIPS,
Acting Chief Sanitary Officer.

Married.

HOPKINS-MARTIN—On Sunday, July 17, at the Methodist Episcopal Church, Panama, Ethel Martin of San Pedro, Cal., to Jess T. Hopkins of Wichita, Kan., the Rev. C. W. Ports officiating. Canal Zone residence, Bas Obispo.

GOODMAN-BANFIELD—At Troy, N. Y., on June 15, Grange Robertson Banfield to Robert Gray Goodman. Canal Zone residence, Cristobal.

KEELING-STEWART—At Atlanta, Ga., on July 6, Camilla Stewart of New York to Edward A. Keeling of Memphis, Tenn. Canal Zone residence, Empire.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

STATISTICAL REPORT FOR JUNE.

The statistical report for the month of June follows:

Total membership	1,643
Total number of bowling games	5,575
Number of different tournaments	8
Total number tournament players	119
Total number pool and billiard games	16,637
Total income from soda fountains	$2,607.19
Number different men using gymnasiums	446
Total attendance of men using gymnasiums	1,334
Number enrolled in chess and checker clubs	76
Number enrolled in glee clubs	23
Number enrolled in dramatic and minstrel clubs	70
Number enrolled in camera clubs	75
Number enrolled in Bible clubs	69
Number enrolled in educational classes	24
Number of members of libraries	698
Total number of books withdrawn	1,883
Number of religious meetings	7
Attendance	232
Number of lectures	8
Attendance	198
Number of imported entertainments	1
Attendance	250
Number of local entertainments	10
Attendance	2,405
Number functions outside association management	13
Attendance	1,245
Number afternoons for women	38
Attendance	182
Number evening functions to which women invited	11
Attendance	1,275
Number different men on committees	123
Number of men called on in hospitals	46
Number of letters written at public tables	5,985
Total attendance at buildings	53,527
Average attendance per day	1,783
Number of beds used during the month	330

BOYS' DEPARTMENT.

Number of members	77
Number of afternoons for boys	64
Average attendance per afternoon	54
Total attendance in systematic gymnasium work	603

CULEBRA.

The gymnasium work, which has been closed for the past two months, was started again Monday evening. The class work will consist of setting up exercises, barball, indian clubs and dumb-bell work, and gymnasium games. All interested are asked to leave their names with Physical Director Kramer. The classes will be held every Monday and Wednesday night.

Twenty-five men are wanted to enter from the Culebra association for the athletic meet to be held at Empire on Labor Day. Training will be started at once under the direction of the physical director.

Schedules have been arranged for local tenpin and duckpin bowling tournaments. Teams representing the Chief Engineer's Office, Quartermaster's Department, Lock and Dam Office, and a miscellaneous team will participate. Monday night of each week has been set aside for duckpins and Tuesday night for tenpins. The schedule of games is as follows:

DUCKPIN TOURNAMENT.

July 25	Chief Engineers vs. Quartermasters.
August 1	Miscellaneous vs. Lock and Dam.
August 8	Lock and Dam vs. Chief Engineers.
August 15	Quartermasters vs. Miscellaneous.
August 22	Lock and Dam vs. Quartermasters.
August 29	Miscellaneous vs. Chief Engineers.

TENPIN TOURNAMENT.

July 26	Chief Engineers vs. Quartermasters.
August 2	Miscellaneous vs. Lock and Dam.
August 9	Lock and Dam vs. Chief Engineers.
August 16	Quartermasters vs. Miscellaneous.
August 23	Lock and Dam vs. Quartermasters.
August 30	Miscellaneous vs. Chief Engineers.

EMPIRE.

The following scores were made in the "ragtime" bowling tournament last week: Edwards-Gorham—1,078; Potter-Peterson, 1,066; Gorham-Gustavson, 1,059. The high score was made by H. M. Pearson who rolled 235. The following good scores were made: Nicodemus, 210; Gorham, 204; Potter, 207, 218; Edwards, 202, 213, 203; Sawtelle, 214; Brown, 216.

The first public debate of the Empire literary and debating society held last Friday evening was attended by a large and enthusiastic audience. The musical and literary features of the program, as well as the debate were well received. The names of those taking part were noted in last week's Canal Record. The debate was won hy the affirmative.

The basketball game between the "Regulars" and the "Machine Shop Nut-Splitters" last Saturday night was won by the "Regulars", 35 to 7.

The Gatun basketball team will play the Empire team on Saturday night of this week. The game will undoubtedly be a good one as both teams have been training hard for the event.

GORGONA.

The Gorgona minstrel show which appeared six times recently at the clubhouses along the line was managed by the following men: Manager, E. L. Emery; stage director, E. C. Briggs; musical directors, C. E. Jennings and Oliver Kimball; stage carpenter, A. L. Hackenberg; scenic artist, J. H. Reichard; property, L. P. Robitoy; special trains, Harry Bevington, engineer, and C. W. Fahr, conductor.

Six dozen pairs of bowling shoes have been received from the States and are on sale at the office at $1 a pair. The bowling tournament closed with the following results, the "Skeeters," with Haldeman, captain, being the winners:

Skeeters.				Stogies.			
Name	G's	Av.	Total	Name	G's	Av.	Total
Hutchins	9	148	1329	Sickelco	12	132	1580
Heim	18	131	2360	Griffin	15	127	1910
Jones	18	137	2471	Stoehr	15	143	2582
Stewart	18	140	2521	Witmer	18	140	2526
Haldeman	18	163	2931	Otis	15	177	2651
Muck Rakers				Ground Rats			
Clements	15	141	2112	Wright	14	141	1975
Canfield	12	130	1562	Weigold	18	135	2438
Bordt	16	158	2526	Hopkins	14	146	2040
Burmaster	18	133	2389	Gowan	14	113	1581
Roper	18	169	3084	Kind	18	168	3028

Teams	Won	Lost	Tied	Captains
Skeeters	12	6	0	Haldeman
Stogies	8	9	1	Otis
Muck Rakers	8	10	0	Roper
Ground Rats	7	10	1	King

GATUN.

Beginning August 1, the regular systematic gymnasium work will be discontinued for two months, but members may use the gymnasium as individuals at all times. Basketball, volleyball and handball are popular just at present and will be encouraged.

A meeting of all those interested in outside sports will be held the latter part of this week at which time the Gatun athletic team will be formed. This team will start training at once for the Y. M. C. A. athletic meet to be held at Empire on Labor Day.

On the evening of July 21, DePoorter of Gatun in a game of pool with E. Coyle made a run of 73 consecutive balls. DePoorter will play Soffitt of Paraiso at Gatun clubhouse on Friday evening of this week for the championship of the Isthmus.

CRISTOBAL.

The basketball team is getting in shape and will soon be ready to meet teams from other associations. Regular practice nights are Tuesday and Friday.

The gymnasium work on Monday and Thursday evenings has been discontinued for the present. Commencing August 1, there will be a special clerks' and Office men's class in calisthenics and general gymnasium work for thirty minutes on Mondays and Thursdays from 5.15 to 5.45 p. m.

Monday evening, July 25, an entertaining concert was given by the orchestra from the steamship *Prinz Joachim*.

The Bible class on Wednesday night was led by H. L. Stuntz.

On Friday night of this week a novel musical entertainment will be given by a Guatemalan quartet. They will play their native instrument called the mariumba.

On Saturday night, July 30, the local basketball team will go to Culebra to play the Culebra team.

Stages of the Chagres.

Maximum height of the Chagres River above mean sea level for the week ending midnight, Saturday, July 23, 1910:

Day and Date	Station.				
	Vigia	Alhajuela	Gamboa.	Bohio.	Gatun Lake.
Height of low water above sea level—feet	125	92	46	0	0
Maximum hght. above mean sea level—feet					
Sun. July 17	133.1	98.6	54.9	20.4	18.7
Mon. July 18	128.8	95.2	49.1	18.9	18.4
Tues. July 19	134.8	99.0	54.2	19.9	18.0
Wed. July 20	132.6	97.4	53.9	19.9	18.4
Thurs. July 21	129.2	95.7	53.5	20.2	18.7
Fri. July 22	131.8	97.0	49.2	19.2	18.6
Sat. July 23	129.6	96.5	51.0	18.7	18.1

OFFICIAL CIRCULARS.

Rates of Pay for Locomotive Firemen.

CULEBRA, C. Z., July 23, 1910.

CIRCULAR No. 229-L:

Effective this date the following rates of pay shall govern for firemen on locomotives of the Isthmian Canal Commission:

STANDARD GAGE LOCOMOTIVES.

Maximum entrance rate of pay	$37.50 per month.
After three months' satisfactory service firemen will be eligible for promotion to not exceeding	45.00 per month.
After six months' satisfactory service firemen will be eligible for promotion to not exceeding	50.00 per month.

Hereafter no locomotive firemen will be promoted to a higher rate of pay than $50.00 per month. Firemen employed at the present time at rates of pay higher than $50.00 per month may be retained at their present rates during satisfactory service.

NARROW GAGE LOCOMOTIVES.

Maximum entrance rate of pay	$30.00 per month.
After three months' satisfactory service firemen may be promoted to not exceeding	35.00 per month.

No firemen on narrow gage locomotives will be promoted to a higher rate of pay than $35.00 per month.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Classified Expenditures.

EMPIRE, C. Z., July 20, 1910.

CIRCULAR No. 26:

The following changes in classified expenditure accounts are hereby authorized effective July 1, 1910:

SUBSISTENCE DEPARTMENT.

Account No. 377—Hotels, Messes and Kitchens—Operations.

This account is transferred to "General Items" and will not be prorated.

Account No. 380—Tivoli Hotel.

This account is transferred to "General Items" and will not be prorated.

The following new account is authorized under "General Items."

Account No. 381—Alterations and Improvements, Hotels, Messes and Kitchens.

To this account will be charged all expenses in connection with alterations and improvements of hotels, messes and kitchens, including the Tivoli Hotel.

Repairs proper to these buildings will be charged to Account No. 409, as heretofore.

This account will be carried as a "General Item" and will not be prorated.

W. W. WARWICK,
Examiner of Accounts.

Approved: GEO. W. GOETHALS,
Chairman and Chief Engineer.

Consignments to Toro Point, Porto Bello, and Nombre de Dios.

CULEBRA, C. Z., July 21, 1910.

TO ALL CONCERNED:

Your attention is invited to the following quoted instructions approved by the Chairman and Chief Engineer, covering all consignments to Toro Point, Porto Bello and Nombre de Dios:

"It is respectfully recommended that all shipments for the above mentioned points be consigned to Atlantic Division, Dock 13, Cristobal, the Atlantic Division to be authorized to increase their organization by the employment of one experienceed white checker, and receipts to be secured by the Atlantic Division from District Quartermasters and others interested at points of delivery.

"As all the work at these three points is for the interest of the Atlantic Division, no charge is to be made against the Quartermaster's Department or others for the service."

Return shipments from Toro Point, Porto Bello and Nombre de Dios will be consigned in the same manner, care being taken to show ultimate designation. Billing will be as per following samples:

OUTWARD.

"District Quartermaster, Porto Bello (or other consignee) care of Atlantic Division, Dock 13, Cristobal."

INWARD.

"Depot Quartermaster, Mount Hope (or other consignee) care of Atlantic Division, Dock 13, Cristobal."

Line consignments to Mount Hope will be billed directly to Mount Hope, without reference to District Quartermaster, Cristobal.

Particular attention will be given to see that all articles are marked as directed above.

By direction of the Chairman,
C. A. DEVOL, *Chief Quartermaster.*

LOST—On Sunday, July 24, between Culebra and Colon, or in Colon, a K. of P. watch charm, maltese cross, 4 onyx and 4 small diamonds. Return to E. W. Palmer, Chief Quartermaster's office, Culebra, for reward.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning July 23:

FRESH MEATS.

	Price.
Mutton—Stewing, per pound	7
Shoulder, neck trimmed off, (4 lbs. and over), per pound	10
Entire forequarters (not trimmed) 10 pounds and over, per pound	9
Legs, (8 to 10 pounds), per pound	19
Cutlets, per pound	20
Shortcut chops, per pound	22
Lamb—Stewing, per pound	7
Entire forequarters, neck trimmed off, per pound	10
Legs (5 to 8 pounds), per pound	24
Chops, per pound	26
Cutlets, per pound	26
Veal—Stewing, per pound	10
Shoulder for roasting (not under 4 pounds), per pound	15
Loin for roasting, per pound	19
Chops, per pound	22
Cutlets, per pound	26
Pork cuts, per pound	22
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	9
Corned, per pound	12, 14, 16
Chuck roast, per pound	13
Pot roast, per pound	15
Rib-roast, second cut (not under 3½ pounds), per pound	18
Rib-roast, first cut (not under 3 pounds), per pound	20
Sirloin roast, per pound	21
Rump roast, per pound	21
Porterhouse roast, per pound	21
Steak, Chuck, per pound	14
Round, per pound	15
Rib, per pound	20
Sirloin, per pound	21
Porterhouse, per pound	21
Rump, per pound	21
Tenderloin, per pound	24

MISCELLANEOUS.

Livers—Beef, per pound	10
Calf, each	60
Half, each	30
Sausage—Pork, per pound	17
Bologna, per pound	14
Frankfurter, per pound	14
Leberwurst, per pound	14
Sweet bread—Veal, per pound	1.20
Beef, per pound	25
Eggs, fresh, dozen	28
Cod, fresh, per pound	7
Bluefish, fresh, per pound	14
Halibut, fresh, per pound	20
Shad, fresh, each	75
Shad roes, fresh, pair	40

POULTRY AND GAME.

Chickens—Fancy Roasting, large, each	1.50
medium, each	1.30
Fowls, each	70, 82, 93, 1.04, 1.15
Ducks, large, each	1.50
medium, each	1.30
Broilers, each	75
Turkeys, per pound	30
Squabs, each	35
Capons, each	2.50
Pheasants, each	70, 1.00
Partridges, each	50
Grouse, each	85

CURED AND PICKLED MEATS.

Ham—English York Cut, per pound	30
German, Westphalia, per pound	36
Sugar cured, per pound	†24
Sugar cured, sliced, per pound	†27
Half, for boiling, per pound	†25
Boiled, per pound	32
Hocks, per pound	‡8
Bacon—Breakfast, whole piece, per pound	30
Breakfast, sliced, per pound	31
Beef, salt, family, per pound	12
Pork, salt, family, per pound	18
Ox tongues, each	80
Pigs' feet, per pound	10
tongues, per pound	16
Mutton, mess, per pound	7

DAIRY PRODUCTS.

Butter—Creamery special, per pound	40
Cheese—Roquefort, per pound	38
Philadelphia Cream, cake	10
Young America, per pound	22
Swiss, per pound	26
Edam, each	1.00
Neufchatel, each	6
Gouda, per pound	34
Parmesan, per pound	35
Milk, Briarcliff, bottle	**25

VEGETABLES AND FRUITS.

	Price.
Celery, per head	12
Lettuce, per head	8, 12, 16
Cucumbers, per pound	5
Potatoes, white, old, per pound	*3
white, new, per pound	*3
sweet, per pound	2½
Yams, per pound	3½
Onions, per pound	5
Tomatoes, per pound	8
Turnips, per pound	3
Carrots, per pound	4
Beets, per pound	5
Cabbage, new, per pound	3½
Rhubarb, per pound	5
Green Corn, dozen	*24
Lemons, dozen	24
Cherries, per pound	14
Plums, per pound	*10
Watermelons, each	35
Canteloupes, each	10
Peaches, per pound	10
Limes, per 100	80
Oranges, dozen	12
Grapefruit, each	4
Pineapples, each	18

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

AUCTION SALES.

Buildings at San Pablo and Bailamonos.

There will be sold at public auction by the District Quartermaster at San Pablo, at his office, at 3 p. m., Saturday, July 30, 1910, to the highest bidder for cash, the following Isthmian Canal Commission property:

Building No. 152, San Pablo; also building known as Court House, at Bailamonos.

The government reserves the right to accept or reject any or all bids. For further information apply to the District Quartermaster, San Pablo, C. Z.

C. A. DEVOL, *Chief Quartermaster.*

Carts and Wagons at Ancon.

There will be sold at public auction by the District Quartermaster at Ancon, at the Quartermaster's corral, at 2 p. m., Saturday, July 30, 1910, to the highest bidder for cash, the following Isthmian Canal Commission property:

1 Cart, dump.
1 Wagon, dump.
1 Wagon, lumber.

The government reserves the right to accept or reject any or all bids. For further information apply to the District Quartermaster, Ancon, C. Z.

C. A. DEVOL, *Chief Quartermaster.*

Building at Cartagenita.

There will be sold at public auction by the District Quartermaster at Pedro Miguel, at his office at 2 p. m., Saturday, July 30, 1910, to the highest bidder for cash, the following Isthmian Canal Commission property:

Building No. 221 Cartagenita.

The government reserves the right to accept or reject any or all bids. For further information apply to the District Quartermaster, Pedro Miguel, C. Z.

C. A. DEVOL, *Chief Quartermaster.*

House at Buena Vista.

There will be sold at public auction by the District Quartermaster at Las Cascadas, at his office at 3 p. m. Saturday, July 30, 1910, to the highest bidder for cash, the following Isthmian Canal Commission property:

House No. 205, Buena Vista.

The government reserves the right to accept or reject any or all bids. For further information apply to the District Quartermaster, Las Cascadas, C. Z.

C. A. DEVOL, *Chief Quartermaster.*

Supplies for Canal Work.

The following steamers with supplies for the Isthmian Canal Commission arrived at the ports of Cristobal and Colon, during the week ending July 23, 1910:

Vauxhall, July 17, from Norfolk, with 341 cases electric fuses for stock.

Sarnia, July 18, from New York, with 180 barrels sulphate alumina; 54 barrels lump alum for stock.

Advance, July 19, from New York, with 100 cases Sapolio; 16 cases injectors; 200 cases washing powder; 68 cases insulated wire; 200 cases varnish; 537 kegs rivets; 67 cases bolts; 149 kegs bolts; 35 kegs nuts, 20 cases graphite paint; 9 reels wire rope; 678 bundles shovels; 40 barrels graphite for stock; and a miscellaneous cargo, the whole consisting of 2,309 packages.

Haakon VII, July 20, from Gulfport, with 97,190 feet piling for stock.

Aldershot, July 20, from Gulfport, with 63,230 feet piling; 12,024 cross-ties for stock; 20,670 feet piling for Atlantic Division.

Ancon, July 21, from New York, with 33,000 barrels cement for Atlantic Division; 80,000 bags cement for Pacific Division; 500 cross-arms for stock.

Abangarez, July 21, from New Orleans, with 264 tons dump car parts for Cristobal shops (for erection); 88,569 feet yellow pine lumber, 100 switch stands (complete) for stock.

Metapan, July 22, from New York, with 20 bales rubber hose; 13 cases bronze rods; 34 cases paint; 74 cases electric fuses for stock.

Meltonian, July 22, from Liverpool, with 290 barrels carbolic acid for stock.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subiect to change:

NEW YORK TO CRISTOBAL.

Cristobal	P. R. R.	Friday	July 22
Colon	P. R. R.	Friday	July 29
Advance	P. R. R.	Thursday	Aug. 4
Panama	P. E. R.	Thursday	Aug. 11
Allianca	P. R. R.	Wednesday	Aug. 17
Colon	P. R. R.	Tuesday	Aug. 23
Advance	P. R. R.	Monday	Aug. 29
Panama	P. R. R.	Monday	Aug. 29
Panama	P. R. R.	Saturday	Sept. 3
Allianca	P. R. R.	Saturday	Sept. 10
Colon	P. R. R.	Saturday	Sept. 17
Advance	P. R. R.	Friday	Sept. 23
Panama	P. R. R.	Thursday	Sept. 29

CRISTOBAL TO NEW YORK.

Ancon	P. R. R.	Wednesday	July 27
Panama	P. R. R.	Saturday	July 30
Allianca	P. R. R.	Thursday	Aug. 4
Colon	P. R. R.	Wednesday	Aug. 10
Advance	P. R. R.	Tuesday	Aug. 16
Panama	P. R. R.	Tuesday	Aug. 23
Allianca	P. R. R.	Monday	Aug. 29
Colon	P. R. R.	Monday	Sept. 5
Advance	P. R. R.	Saturday	Sept. 10
Panama	P. R. R.	Friday	Sept. 16
Allianca	P. R. R.	Thursday	Sept. 22
Colon	P. R. R.	Thursday	Sept. 29

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible, leaving Cristobal on or about the 4th and 25th of each month. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

NEW YORK TO COLON.

Zacapa	U. F. C.	Thursday	July 21
Atrato	R.-M.	Saturday	July 23
Almirante	U. F. C.	Thursday	July 28
Prinz Aug. Wilhelm	H.-A.	Saturday	July 30
Santa Marta	U. F. C.	Thursday	Aug. 4
Tagus	R.-M.	Saturday	Aug. 6
Metapan	U. F. C.	Thursday	Aug. 11
Prinz Joachim	H.-A.	Saturday	Aug. 13
Zacapa	U. F. C.	Thursday	Aug. 18
Oruba	R.-M.	Saturday	Aug. 20
Almirante	U. F. C.	Thursday	Aug. 25
Prinz Aug. Wilhelm	H.-A.	Saturday	Aug. 27
Magdalena	R.-M.	Saturday	Sept. 3
Clyde	R.-M.	Saturday	Sept. 17

COLON TO NEW YORK.

Tagus	R.-M.	Wednesday	July 27
Metapan	U. F. C.	Friday	July 29
Prinz Joachim	H.-A.	Tuesday	Aug. 2
Zacapa	U. F. C.	Friday	Aug. 5
Oruba	R.-M.	Wednesday	Aug. 10
Almirante	U. F. C.	Friday	Aug. 12
Prinz Aug. Wilhelm	H.-A.	Tuesday	Aug. 16
Santa Marta	U. F. C.	Friday	Aug. 19
Magdalena	R.-M.	Wednesday	Aug. 24
Metapan	U. F. C.	Friday	Aug. 26
Prinz Joachim	H.-A.	Tuesday	Aug. 30
Zacapa	U. F. C.	Friday	Sept. 2
Clyde	R.-M.	Wednesday	Sept. 7
Atrato	R.-M.	Wednesday	Sept. 21

NEW ORLEANS TO COLON.

Atenas	U. F. C.	Saturday	July 23
Turrialba	U. F. C	Saturday	July 30
Abangarez	U. F. C.	Saturday	Aug. 6
Atenas	U. F. C.	Saturday	Aug. 13
Turrialba	U. F. C.	Saturday	Aug. 20
Abangarez	U. F. C.	Saturday	Aug. 27

COLON TO NEW ORLEANS.

Abangarez	U. F. C.	Thursday	July 28
Atenas	U. F. C.	Thursday	Aug. 4
Turrialba	U. F. C.	Thursday	Aug. 11
Abangarez	U. F. C.	Thursday	Aug. 18
Atenas	U. F. C.	Thursday	Aug. 25
Turrialba	U. F. C.	Thursday	Sept. 1

COLON TO BARBADOS, CALLING AT TRINIDAD.

Atrato	R.-M.	Tuesday	Aug. 2

The next sailing of the Leyland Line will be as follows: *Mexican*, August 13, for New Orleans, via Kingston, Ja.

Hamburg-American steamers leave for New York at 10 a. m., and for Port Limon every Tuesday or Wednesday.

Royal Mail steamers leave for New York on alternate Wednesdays at 10 a. m.; for Southampton on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans leave on Thursday at 3 p. m., and for New York on Friday at 10 a. m.

Sailings of the French Line (Cie Generale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

CANAL RECORD

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THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

New Pump for Culebra Cut Drainage System.

A centrifugal pump with a capacity of 18,000 gallons a minute has been added to the pumping plant in Culebra Cut at Bas Obispo. It is of the Worthington type, with a 26-inch intake and 24-inch discharge. There are now in the plant, besides the new centrifugal pump, three horizontal duplex pumps (steam cylinder 16 inches, water cylinder 22 inches, stroke 18 inches) and two old French centrifugal pumps with 16-inch discharge. The capacity of the piston pumps is 12,600 gallons a minute, and the total capacity of the plant is 44,600 gallons per minute. Two 200-horsepower boilers have been installed to run the enlarged plant, taking the place of the two steam shovel boilers formerly used. The sump has also been enlarged to 20 by 60 feet.

The purpose of the pumping plant at Bas Obispo is to drain Culebra Cut from the summit near Empire to the Chagres River at Bas Obispo, a distance of 4 miles. •All the water that flows into the Cut, not having been diverted by the Obispo and Camacho diversion canals, or falls into it from the heavy rains, is drained into the sump, whence it is pumped into the Chagres River

Addition to Atlantic Division Dredging Fleet.

Another working unit was added to the Atlantic Division dredging fleet on Monday, August 1, when *No. 4*, the 18-inch suction dredge which has just been completed, left its berth at the Cristobal marine shops to begin operations in the French canal between Cristobal and Mindi. The vessel was rebuilt from the hull of an old French ladder dredge recovered from the Chagres River, near Frijoles, and brought to the Cristobal shops on Christmas day, 1908, along with several other old French dredges, which were later rebuilt and placed in service. Dredge *No. 4* has been fitted with new machinery throughout, all of the work on it having been performed at the Cristobal shops at odd times during the past ten months. It is equipped with two Mosher water tube boilers steaming at 200 pounds pressure; triple expansion condensing engine and a centrifugal pump made by the Morris Manufacturing Company of Baldwinsville, N. Y. It is proposed to use the dredge in filling in the section of the city of Colon to be improved; in the hydraulic excavation of the Canal, north of Gatun Locks, and in accessory work.

Erection of Lock Gates.

Messrs. Marshall, McClintic, and Jewell of the McClintic-Marshall Construction Company will come to the Isthmus on the *Ancon*, scheduled to leave New York about August 9, for the purpose of making preliminary arrangements for the erection of the lock gates. Mr. Jewell will be the superintendent in charge of the work on the Isthmus during the erection.

Gamboa Gaging Range.

The river gaging range which had been maintained by the French for many years in the Chagres River, near Gamboa, is to be reestablished, and a gaging station similar to those at Alhajuela, Bohio, and later at Gatun will be maintained there. A cable will be stretched across the river about 900 feet upstream from Gamboa Bridge and will be anchored on either bank in concrete reinforced with steel rail. From this cable a car will be hung from which the gaging can be done at any stage of the river. A steel Lidgerwood cable, 1½-inches in diameter will be used. The distance from anchor to anchor will be 940 feet, and the distance from center to center of the concrete saddles over which the cable will be strung will be 892 feet. Turnbuckles at each end will provide for the final adjustment. The cable will be stretched by a locomotive operating on a nearby track, instead of in the usual way by hoisting engine.

Scrap Iron on Pacific Coast Market.

Five hundred tons of miscellaneous scrap iron and steel, mostly old French material, will be sent to San Francisco or Seattle for sale in order that a comparison may be made between the prices obtainable at Atlantic and Pacific coast ports. All the scrap shipped up to this time has been sent to New York in the Panama railroad steamships, from 500 to 1,000 tons being sent on each of the cement ships, *Ancon* and *Cristobal*, and smaller amounts on the other ships according as they may need it for return cargo.

The trial shipment to the Pacific coast will be made on the *Wotan*, a German steamer chartered by W. R. Grace & Co., and although the distance to San Francisco is much greater than to New York the rate per ton for carrying the material will be the same. The *Wotan* is now at the wharf at Balboa, and after it has unloaded a cargo of 2,500,000 feet of lumber and some piles for the Canal work, it will go to Callao, taking the scrap cargo on its return from Peru.

SANTA CRUZ WORK FINISHED.

Canal Completed at Point No. 1—Work Remaining in Lake Region.

The Canal is completed at Santa Cruz (Point 1). Seven tons of dynamite were exploded in each of the two dikes that protected the excavation from the Chagres River on the afternoon of July 31, which will allow the river to flow through the completed section on the next freshet. This section is 2,500 feet long, 500 feet wide, and contained approximately 1,250,000 cubic yards of rock and earth when the work was begun in January, 1908. It is known as Point No. 1, and is the southernmost of 11 small pieces of excavation necessary in the Gatun Lake region to make the channel at least 45 feet deep throughout. The amount of excavation in the whole lake region is 12,938,294 cubic yards, about one-fifteenth of the total. Of these 12,938,294 yards about 3,249,838 yards remain to be excavated before the Canal will be completed through the lake region.

In the lake region the Canal is on a good alignment through the valley of the Chagres River, which has a tortuous course throughout its entire length. Much of the excavation, including that at Santa Cruz, is across the points of land formed by the bends of the river. The French had begun work in this region and a well defined channel, although long abandoned and grown over with weeds and small trees, was found there by the Americans. When the excavation was started at this point, the cut was subject to inundation from the river and barriers were thrown up at either end of the channel to keep the water out, and pumps were installed to lift seepage and rain water from the cut. In this manner the steam shovels were kept at work during the rainy season until the rock excavation was completed.

High water on June 14, 1909, made it necessary to suspend temporarily, and it was decided not to resume during the wet weather, because mud excavation is more expensive than dry earth. During the heavy freshet of November 17-20, 1909, the water in the river overtopped the dikes and a broad stream rushed through the excavation, washing down the barriers at either end and carrying into the channel an amount of sand and gravel estimated at 43,000 cubic yards. At the beginning of the dry season in January, 1910, work was resumed, but an unexpected freshet in February made it necessary to suspend again. The dikes were then raised to 65 feet above sea level, about 20 feet above the low water mark at this place, and pumps were again set to work to keep the cut dry.

The shovels completed the work under these conditions. The channel was excavated down to 39 feet above sea level, one foot lower than the original plans comtemplated, in order to make allowance for the slight silting that is inevitable, since the river will now leave its old channel and flow through this completed portion of the Canal, and for spill from steam shovels.

A section similar to that at Santa Cruz, immediately north of that point, was completed on June 6, 1909. The two sections combined make the completed part of the Canal in this locality about one mile long.

Backfilling at Gatun Locks.

The work of making the backfill along the side walls of the upper lock at Gatun has been started and will keep pace with the construction of the towing tunnels, one of which will parallel each side wall at a distance of 25 feet from the main structure. These tunnels will rest on concrete piers placed at regular intervals. All of the piers between the intermediate and upper gates on the east side have been erected, and forms are now being erected for them along the west wall. The backfill is made by dumping carloads of earth and rock between the natural bank and the lock wall up to the tops of the piers. It can go no higher at this time but when the tunnels have been constructed the fill will be continued upward to the top of the lock wall. The tunnels are to be of reinforced concrete containing three openings, or chambers, the lower one for the drain, the intermediate and smaller one for the ducts, and the upper one to be used for operating the towing "mules." Over the top of the tunnel will run a "mule" track, which, in conjunction with the track to be laid along the lock wall will form a "loop" or connecting line for the operating system.

Plans have been prepared for a foot bridge, which will span the upper lock near the south end. It is designed to provide a safer means than exists at present for the men employed in and around the works to go back and forth. The men are now compelled to walk through the lock chambers and cross tracks over which, during the working hours of the day, trains are constantly moving. The structure will be sufficiently wide for two men to walk abreast. The bridge is not designed for permanency, but will be used only while the lock work is in progress, and will be placed so that it can be moved to another location on the walls when desired.

A total of 20,666 cubic yards of concrete was placed in the Locks during the week ending July 30, the operations in detail being as follows:

	Cubic Yards.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
July 25	2,014	938	261	3,213
July 26	2,060	952	313	3,325
July 27	2,446	954	320	3,720
July 28	2,384	1,052	254	3,690
July 29	2,248	1,000	321	3,569
July 30	1,986	870	293	3,149
Totals	13,138	5,766	1,762	20,666
Previously reported				576,904
Grand total				597,570

Increased Operations at Pedro Miguel.

About five-eighths of the concrete in the west wall of the locks at Pedro Miguel is in place. Concrete laying in the east wall has commenced and is making fair progress. The floor and culvert sytem in the west chamber has been extended south as far as the gate sill, and in the east chamber as far as the T culvert. All four of the chamber cranes are now engaged in placing concrete. The increased operations have made necessary more buckets for carrying concrete between the berm and chamber cranes, and in order to avoid delay, a number of drop bottom iron bound wooden buckets of the same type as the metal buckets used hitherto were manufactured at Gorgona shops.

The amount of concrete mixed and placed during the week ending July 30, established a new high record for the Pedro Miguel Locks. The total was 11,211 cubic yards, a daily average of nearly 1,869 cubic yards for the entire plant, and a daily average of 433 cubic yards for each of the 2-yard mixers of the construction plant. The record for each of the six eight-hour working days, follows:

Date.	Cubic Yards.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
July 25	1,746	232	24	2,002
July 26	1,694	180	40	1,914
July 27	1,852	28		1,880
July 28	1,764	32		1,796
July 29	1,778	150		1,928
July 30	1,566	100	25	1,691
Totals	10,400	722	89	11,211
Previously reported			2,065	199,110
Grand totals			2,154	210,321

Miraflores Locks.

The following is a record of the concrete laid in the Miraflores Locks, by days, during the week ending July 30:

	Auxiliary Plant.		
	½-Cubic yard mixers	⅓-Cubic yard mixer	Total
July 25	149	40	189
July 26	160	47	207
July 27	147	21	168
July 28	162	39	201
July 29	184	27	211
July 30	150	28	178
Totals	952	202	1,154
Previously reported			3,989
Grand total			5,143

Ancon Rock Crusher.

A statement of the rock crushed at Ancon quarry for the week ending July 30, follows:

Date.	Hours worked.	Cubic Yards.
July 25	2:40	585
July 26	7:40	2,700
July 27	5:45	1,980
July 28	7:25	2,505
July 29	5:45	2,145
July 30	8:00	2,560
Total	37:15	12,475

Porto Bello Rock Crusher.

A statement of the work done at Porto Bello crusher, by days, for the week ending July 30, follows:

Date.	Hours worked.	Cubic Yards.
July 25	9:30	2,208
July 26	13:30	3,742
July 27	12:40	3,207
July 28	2:40	887
July 29	7:00	2,077
July 30	17:25	3,020
Total	62:45	15,141

RELOCATION OF P. R. R.

Line May Run East of Culebra Cut, Instead of Through It.

The Chief Engineer of the Panama railroad has been directed to make a survey for the relocation of the railroad between Gamboa Bridge and Pedro Miguel along what is known as the "high line" east of Gold Hill and of Culebra Cut. After the survey is completed the question will be determined whether the present location on the berm at 95 feet above sea level through Culebra Cut will be abandoned as the permanent location of the railroad through this section. The berm is a part of the Canal project, but on recommenddation of a committee appointed in July, 1908, it was decided to utilize it as the location of the new railway, conditions at that time leading to the belief that this would be the most economical location.

A committee appointed to consider engineering problems on the relocated line, consisting of H. H. Rousseau, Assistant to the Chief Engineer; Maj. Chester Harding, Assistant Division Engineer of the Atlantic Division; and Lieut. F. Mears, Chief Engineer of the Panama railroad, has reported in view of present conditions, as follows:

"The committee desires to invite attention to the report made to you on July 30, 1908, recommending adherence to the 'berm line', principally for reasons of economy and based upon information then available, and stating that should future developments indicate the undesirability of locating the track on the 'berm line' there would be time to consider the adoption of some other route. Since that time, and more especially within the last six months, conditions on which the report of about two years ago was based have changed, viz:

1. The disadvantages and inconvenience arising from the difficulty of access to such a 'herm line' track, so far below the level of the natural ground between Gamboa and Pedro Miguel, have become more pronounced and have assumed much larger relative weight.

2. The necessity of a combined railroad and highway bridge over the Canal at some convenient and available point, like Empire, for not only the development of the Zone west of the Canal and the convenience of its inhabitants, but also to afford uninterrupted railroad communication across the Canal to any railroad that might be extended to the Canal Zone from the northwest, either a Panamanian railroad or the long projected Pan-American railroad, has become more evident. If such a bridge is built the 'berm line' road would be too far below it to make connection, and the railroad connection to the bridge on the east side of the Canal would have to branch from the main line of the relocated Panama railroad in the vicinity of either Gamboa or Pedro Miguel.

3. During the present rainy season as the excavation in the Cut has gone deeper, the difficulty of keeping the 'berm line' road free from interruptions before the banks have taken their final slope, which cannot be expected to occur until some time after the completion of the Canal, has become more evident and is now a potent factor in considering this question.

4. With a 'high line' for railroad traffic and a 'berm line' for construction and maintenance work only, the Committee believes that the omission of the greater part, if not all, of the concrete retaining walls through the Cut, the construction of which was originally contemplated, can be seriously considered. These retaining walls could only be built at a large expense and there is some doubt as to their necessity and permanent value. The estimate of December, 1908, included an item of four million dollars for these retaining walls.

"All of these reasons, therefore, indicate the economy and desirability of running the relocated Panama railroad on the so-called 'high line' around Gold Hill, and the committee, therefore, has the honor to recommend that this plan be adopted."

COST OF BUILDINGS.

Statement Showing Departments to Which Cost is Chargeable.

A statement of the cost of construction and repair of buildings by the Isthmian Canal Commission, from May 1, 1904, to April 1, 1910, has been prepared for the use of the committee appointed to classify such expenditures. The statement follows:

	Construction.	Repairs.	Total.
Department of Construction and Engineering.			
Offices	$360,727.41	$35,571.65	$396,299.06
Hotels	560,589.70	143,952.69	704,542.39
Gold quarters	3,338,773.99	405,287.97	3,744,061.96
Silver quarters	441,977.94	53,525.30	495,503.24
Kitchen, silver	95,742.07	19,997.73	115,739.80
Commissaries	95,309.82	23,005.48	118,315.30
Baths, closets and wash houses	125,139.98	26,351.15	151,491.13
Shops	452,802.75	49,364.18	502,166.93
Storehouses	286,838.61	133,112.80	419,951.41
Clubhouses (Y. M. C. A.)	149,582.20	18,075.24	167,657.44
Lodge halls and churches	69,501.19	11,881.27	81,382.46
Old French buildings	....	1,322,617.17	1,322,617.17
Miscellaneous buildings	347,111.03	113,725.25	460,836.28
Total	$6,324,096.69	$2,356,467.88	$8,680,564.57
Department of Civil Administration.			
Court houses	$7,469.94	$3,990.96	$11,460.90
Post-offices	60,147.89	6,096.20	66,244.09
Police stations	123,112.60	33,199.49	156,312.09
Fire stations	55,909.23	9,697.31	65,606.54
Old French buildings	....	29,148.50	29,148.50
Miscellaneous buildings	1,139.94	84.85	1,224.79
Total	$247,779.60	$82,217.31	$329,996.91
Sanitary Department.			
Offices	$5,445.73	$1,293.87	$6,739.60
Hospitals, dispensaries, etc	458,319.33	47,360.79	505,680.12
Medical storehouses	24,326.59	2,180.43	26,507.02
Quarters	157,968.73	27,923.57	185,892.30
Miscellaneous buildings	28,047.84	2,409.14	30,456.98
Old French buildings	....	195,543.12	195,543.12
Total	$674,108.22	$276,710.92	$950,819.14
Canal Zone Government.			
Markets	$17,890.17	$1,702.69	19,592.86
Schoolhouses	66,619.36	6,366.21	72,985.57
Public convenience closets	6,304.80	155.67	6,460.47
Old French buildings	....	16,292.36	16,292.36
Totals	$90,814.33	$24,516.93	$115,331.26
Recapitulation.			
Department of Construction and Engineering	$6,324,096.69	$2,356,467.88	$8,680,564.57
Department of Civil Administration	247,779.60	82,217.31	329,996.91
Sanitary Department	674,108.22	276,710.92	950,819.14
Canal Zone Government	90,814.33	24,516.93	115,331.26
Total	$7,336,798.84	$2,739,913.04	$10,076,711.88

Total expenditures in accordance with records of the Quartermaster's Department	....	$10.076,711.88
In addition to this amount, there are certain charges on the books of the Examiner of Accounts not carried by the Quartermaster, viz:		
(*a*) Expenses of administration and supervision of office of Master Builder from July, 1905, to June, 1908	$601,467.42	
(*b*) Cost of work performed by Departments and Divisions other than the Division of Building Construction, on account of construction and repair of buildings from July, 1905, to June, 30, 1908	177,965.66	
(*c*) Charges against building construction and repair not located to the different buildings	303,598.08	$1,083,031.16
Total charges on account of construction and repair of buildings to March 31, 1910, as reported by the Examiner of Accounts	....	$11,159,743.04

In its report the committee invites attention to the fact that the ratio of the cost of repairs to the cost of original construction for hotels is more than double that for gold quarters, and the cost of repairs for messes and kitchens for laborers exceeds the cost of repairs to silver quarters by seventy-five per cent. The committee recommends that repairs in the nature of upkeep of the hotels and similar buildings be charged to the Department of Construction and Engineering, but that alterations and improvements to hotels, messes, and kitchens be charged against the operations of the Subsistence Department. The recommendation was approved by the Chairman, and the rule was adopted effective on July 1.

Civil Service Examinations.

The following civil service examinations will be held on the Isthmus, for the Isthmian service, on approximately the dates shown below:

Clerk	September 14.
Physician	September 14.
Typewriter	September 14.
Draftsman	October 12.
Postal Clerk	October 12.
Trained Nurse	October 12.

Any employe of the Isthmian Canal Commission or the Panama Railroad Company, who wishes to enter one or more of these examinations, should communicate with me at the earliest practicable date, in order that the necessary application forms and information may be furnished to him.

John K. Baxter,
Secretary, Isthmian Civil Service Board.
Culebra, C. Z., July 30, 1910.

West Indian Protective League.

An organization has been formed among the West Indians in the Canal Zone under the above title, its purpose being to represent the legal interests of its members, and other West Indians on the Isthmus. The headquarters are at Gorgona where meetings are held once a month. The organization issues a monthly journal devoted to the interests of its members and other West Indians, and other literature in the form of folders and tracts, published under the direction of the League, is circulated on the Isthmus and in the West Indies. The present membership is about 150 and is composed of men, women and children, the latter being admitted when twelve years old, or over. In July, a meeting was held in Colon for the purpose of arousing interest among the West Indians in that city and in Cristobal with the object of forming a branch.

Record by Sixteen Steam Shovels.

On July 28th, 16 steam shovels working in the Culebra District of the Central Division, excavated 26,355 cubic yards of rock and earth during the eight-hour working day, an average of 1,647 cubic yards for each shovel. The shovels were under steam 128 hours, and during this time were actually digging for 91 hours and 50 minutes. The rest of the time was lost waiting for cars, mining, moving shovel back, and cleaning track.

Culebra Cut Construction Tracks.

The part of the relocated line of the Panama railroad which extends from Paraiso to Corozal will be opened for regular traffic on August 5, and after that date the present line between those points will be used exclusively by the Department of Construction and Engineering. Central Division construction trains running from Culebra Cut to the dumps at Miraflores and Balboa, and returning from them, will practically monopolize the old track.

Work has been begun on a new incline at the south end of Culebra Cut at Pedro Miguel up which spoil trains will run onto the old line of the Panama railroad, thence to the dumps. The present incline is within the limits of the ship basin to be excavated at the north end of Pedro Miguel Locks, and as soon as it is abandoned, the steam shovels will continue their excavation into that portion of the basin area. Meanwhile it can be used as a loading track. The new incline will leave the prism of the Canal at Paraiso Bridge and keep well outside the limits of the ship basin to the point where it will join the old Panama railroad at the present interlocking signal station.

Extending East Balboa Dump.

The low land between what is known as the "high dump" at East Balboa and Sosa Hill is to be filled with spoil from Culebra Cut, thus continuing the work of reclaiming valuable tide-washed land at the Pacific entrance to the Canal and also disposing of about 500,000 cubic yards of material. The transmission line by which electric current is carried across this low section to the docks at Balboa will be taken down and a new line constructed across the "high dump". A track will then be run from the yard at East Balboa to the low ground and this will be shifted as the fill advances. There are now about 250 acres of reclaimed land in this dump.

Departure of Allianca from Cristobal.

The delay in the departure from New York of the steamship *Allianca*, due to the necessary repairing noted in the issue of The Canal Record of July 27, will not affect its departure from Cristobal on the return voyage. The ship left New York on July 26, three days behind the scheduled time, but will leave Cristobal, as scheduled, on August 4.

CHURCH EXTENSION WORK.

Scope of Religious Activities in the Zone Considerably Enlarged.

Religious work in the Canal Zone villages has been extended considerably during the past year and several new church buildings have been constructed, or are in course of erection, either by or with the aid of the Canal Commission, or through other means.

The congregation of St. Augustine's Church at Paraiso, has had the use of a tent for holding services up to the past month. On the site where the tent stood a church building is going up, the corner stone having been laid on Sunday, June 19, by Archdeacon Bryan. In January, the Episcopal mission began the work at Pleya del Flor. There are 15 communicants, consisting of West Indians and natives. Services are held in the Commission schoolhouse on the last Thursday in each month. Since September, 1909, a new church building has been completed by the West Indian mission at Empire. The church is free from debt and has 150 communicants, besides a strong following among the West Indians residing in, or near the village. The work is in charge of one of the white clergymen, who also looks after the parishes of St. Andrew's, Gorgona, and St. Philip's, Las Cascadas, both West Indian missions. In connection with these parishes, Sunday schools and chapters of the Brotherhood of St. Andrew have been organized.

At Gatun, a rectory for the resident chaplain has been constructed by the church building fund of the Episcopal church.

The work of Chaplain S. Moss Loveridge at Culebra is among the colored people especially, and is divided into five missions, located at Cucaracha, Haut Obispo, Matachin, Frijoles and Culebra. In addition, services are held weekly in the Culebra penitentiary and at the prison stockade near Gold Hill. The work at Haut Obispo was begun last July, when a small church was erected in a district known as Mandinga, situated on the hills east of the Panama railroad relocated line, between Bas Obispo and Las Cascadas, where there is a steadily increasing population. The cost of the building was met by funds contributed by the people of the parish. Chaplain Loveridge works under the Baptist Home Mission Board.

In November, 1909, the Cucaracha mission was opened, and since that time a permanent church organization has been effected and the membership increased. Institutional work among the West Indian men at Culebra was also begun in November, 1909, furthered by the construction of a building by the Commission known as the Young Men's Colored Institute A resident caretaker is employed, and the reading room is supplied with magazines, periodicals and current West Indian newspapers. Writing materials are furnished free of cost, while the clubroom tables are supplied with small games for recreation. The work was experimental and is supported by the mission. During the five months ending with March, the aggregate number of men availing themselves of the clubroom and other privileges was 2,671.

Through the efforts of the chaplain, assisted by members of other congregations and subscriptions, a library of 297 books has been placed in the Culebra penitentiary.

The corner stone of the first church on the Panama railroad relocation was laid on Sunday, June 19, by the Wesleyan Methodist mission at New Frijoles. The pastor, Rev. M. Britton King officiated, assisted by Rev. E. G. Cook of Colon and Rev. Carl H. Elliott of Cristobal. The church will be a small frame structure, built on a site about two miles back of the old mission at Frijoles. In the new mission will be merged the missions established at Lion Hill and Bohio. The Sunday school will have about 40 pupils. The cost of the new church will be met by local subscriptions and a fund of $500 has already been raised. The mission at old Frijoles was established about the year 1882, with the beginning of Wesleyan Methodist work on the Isthmus. A combination church, schoolroom, and living apartments, remodeled from a dwelling, in use at present.

Work on the new Roman Catholic church at Culebra is proceeding. Several months ago a temporary roof was placed over the vestries and apse where services are now held regularly. The church is situated on an elevation overlooking the Canal and will be visible between Las Cascadas and Pedro Miguel from ships passing through. The building is of concrete and in style of architecture follows the late Gothic. It will consist of three sections, the choir, nave and tower. The latter, including the spire surmounted by a sphere and cross of polished bronze, will be 140 feet in height. There will be three rose windows, one in the tower and one each in the north and south transepts. The nave will be supported by pillars made of marble, some of which have been on the Isthmus since the time of the French canal. These pillars will be grouped in fours, each having an ornamental base 54 inches in circumference. The sum of $10,000 has already been expended on the building, and it is estimated that $20,000 more will be required to complete it. Permission has been obtained to place a concrete wall on the Canal side of the church, and a row of palm trees will be planted within the enclosure. The rectory will be located in the rear of the building and an orange grove will probably be set out in the rectory garden. The church site was a grant from the Isthmian Canal Commission and work on the building was begun three years ago. The corner stone was laid on August 30, 1908, by the Bishop of Panama whose jurisdiction extends over the Canal Zone.

Improvements at Cristobal Marine Shops.

An extension, 38 feet wide and 93 feet long, has been made to the building containing the boiler repair department at the Cristobal marine shops, and will be principally for the use of the shipfitters. Two machines, an angle shears, and a combination punch and shears of the double end type, will be transferred from the old to the new part, and it will also contain a new 60-inch combination punch and shears of the single end type which was recently received and set up. A brick furnace, having 23 feet of floor space, capable of heating steel plates 18 by 20 feet in size, and using oil for fuel, is being built at the end of the extension. The plates when sufficiently heated will be drawn out on a platform 2 feet 6 inches high, in line with the furnace door, where they will be straightened. A concrete floor has been laid in the center of the new addition, which will be used by the shipfitters in laying out their work. The present system of shafting will be extended throughout, and the track for the small traveling material crane will run the entire length of the building. A rack for holding steel plates is planned for at the extreme end of the old part, adjoining the rack for angle iron, etc. A locomotive crane can be used in the shipfitters' section, when required, to lift plates and other heavy material about. The inside changes and construction of the furnace are being done by the regular shop force.

Change in Pacific Division Labor Train.

The Pacific Division began operating its labor train over its own tracks from Pedro Miguel Locks to Corozal on Monday, August 1. Heretofore, the train has been run from Miraflores to Corozal at noon, and from Miraflores to Panama at night over the Panama Railroad Company's operated line, an extra train carrying the employes from the locks at Pedro Miguel to Miraflores, where a transfer was made. The labor train now starts out from Pedro Miguel, runs to Miraflores where connection is made with a short train bringing the men from Cocoli shops and Miraflores Locks, thence to Corozal on the sand track which goes to Balboa. At night when the train runs into Panama, it crosses over onto the Panama railroad line at Corozal. The change has necessitated cutting out the stop formerly made at Miraflores power house.

Dumping Record at Miraflores and Balboa.

During the month of June spoil cars were dumped by Central Division forces at Miraflores and Balboa, as follows:

LOCATION.	CLASS OF CARS.	No. Cars.	Cu. Yds.
Miraflores Dumps........	Lidgerwood flats..	15,793	300,067
Bridge No. 62....	Lidgerwood flats..	95	1,805
Miraflores Dumps...	Western dumps...	408	4,080
P. R. R. Dump No. 3..........	Western dumps...	1,156	11,560
Corozal..........	Western dumps...	68	680
Bridge No. 62....	Western dumps ..	34	340
Total Miraflores Section	....	17,554	318,532
Balboa Dumps ..	Lidgerwood flats..	17,005	323,095
Balboa Dumps ..	Western dumps...	920	9,200
Total Balboa Section......	....	17,925	332,295
Grand total dumped—Pedro Miguel District.......	....	35,479	650,827

This is the largest quantity of material handled at these dumps since the work began.

The Sunday school of the colored Wesleyan Methodist Church in Panama celebrated the English "Emancipation Day" on Monday, August 1, with a picnic at Corozal.

Sailing of the Cristobal.

The sailing date of the steamship *Cristobal* from Pier No. 11, Cristobal, has been fixed for 3 p. m., August 8.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Paraiso, C. Z., on Sunday, August 7, at 2 p. m. The program follows:

1	March—*Festal Day*........................	Roux
2	Selection—*A Trip to Japan*................	Klein
3	Waltz—Sobre Las Olas......................	Rosas
4	*a Wild Cherries*..........................	Snyder
	b Moonlight in Dixie.....................	Clement
5	Bolero—*A Fete in Madrid*..................	Abbiate
6	*Among the Lillies*........................	Frey
7	Medley Overture—*Amina*....................	La Farge
8	*Sextet from Lucia*........................	Donizetti
9	Overture—*Lustspeil*...	Keler Bela
10	March—*National Emblem*....................	Bagley

OLIVER KIMBALL, *Acting Musical Director.*

The next concert will be given at Hotel Tivoli, Sunday, August 14.

THE RAINIEST JULY.

Excavation, Lock, and Dam Work Advance Regardless of Rain.

The rainiest July of record on the Isthmus was that which has just closed. A statement is appended showing how it compared with other Julys, and in one instance, that of Cristobal, it will be seen that the record extends over a period of 40 years. There were showers on each of the 31 days, and some of the most violent of these occurred during hours when work was in progress on every section of the Canal and railroad. A popular deduction from past rainy seasons is that there is likely to be a heavy shower between 12 and 2 o'clock each day, and the meteorological records on the Isthmus sustain this belief, to the extent of showing that the noontime rains are very frequent and often heavy, as much as two inches of rain falling in one hour.

At Gatun during the hardest part of such a storm, one who looks out across the valley from the division office can see but dimly the lock monoliths and the cableway towers nearby, while the workers on the Dam beyond the locks are quite obscured from view. Gradually the more intense rain gives place to a gentler downfall, and it often happens that within half an hour after the blinding shower the sky is blue and the sun is shining. To one who watches from shelter it is a fair assumption that during the most violent part of the rain the men have found some protection and the work has been temporarily suspended. He can see that this is not true during the drenching, but gentler parts of the storm; and if he were out on the Dam, at the spillway, or in the lock site, he would know that the work seldom ceases during any part of the rain.

The men at work on the toes of the Dam cannot shift track so rapidly in wet as in dry weather, and there is an added inconvenience in the dumping of rock and earth from the spoil trains, but they can do some work and, while they can, they do it. In a locality like Gatun, where rain is the rule and fair weather the exception, this persistence through the heaviest showers makes a great difference in the amount of spoil that can be unloaded on the toes of the Dam, and it explains in a measure why that work is keeping pace with that on the Locks. Showers make no difference to the force on the hydraulic fill, because the dredges and relay pumps are under cover, and at the spillway it is not allowed to interfere; the men put on their waterproof coats and keep at work.

Half of the concrete work at the Locks is also done under cover; that is, the materials are sent to the mixers, mixed, and delivered over the lock site by men protected from the rain. They set the pace for the outside workers. Concrete is spaded into place as long as the cableway operator can see the signals of the man whose flag directs the movement of the buckets, and all the rest of the work moves in consonance with this.

"How quickly they resume work," said a tourist watching from the division office at Gatun a few days ago, during the noontime storm. The fact was that no one had ceased work during all the torrential rain.

One of the wettest places in Culebra Cut is the pit in which a steam shovel works, because the pit is filled knee-deep with water, and there is no protection overhead. The pitmen are laborers, usually negroes, and they pay as little attention to the rains as the Spanish track laborer, and the white Americans who direct the work. A statuesque picture of indifference to weather is the conductor of a spoil train running out of Culebra Cut. The engineer and fireman are in the locomotive cab and dry, but the conductor is entirely exposed during the heaviest storms, as he sits on the high side of the rear flat car of a train carrying spoil to the dumps or running back to the Cut where some steam shovel is waiting for more cars. It is an unusual storm that forces a steam shovel to suspend, unless the drainage of the pit is stopped and the water puts out the fires. The track gangs keep at work in the Cut and on the dumps where the mud is literally up to their knees, because disposing of the spoil, not excavating it, is still the determining factor in the digging of Culebra Cut. In the table below the rainfall conditions in the Cut during July may be seen from the records at Culebra, Empire, and Gamboa. During this month the excavation amounted to 1,153,729 cubic yards.

Although the Pacific coast is not so wet as the Atlantic and Central sections, the concrete laying in the locks at Pedro Miguel and Miraflores is subject to much the same conditions as at Gatun, because where there is such a rainfall as was recorded at Pedro Miguel in July a few inches more make little difference. At Pedro Miguel as much of the concrete work is done under shelter as at Gatun, because the men in the mixing cranes assemble the materials and mix them, a sheltered locomotive hauls the concrete to the placing cranes, and another man under cover delivers the concrete to the forms, where the laborers distribute it as at Gatun. But the form work is different, requiring a greater number of men to be exposed to the rain, because at Pedro Miguel the rapidity with which the forms can be set up determines largely the rate at which the concrete can be placed. One cannot keep dry here and watch the workers in the rain, but they are working just the same, at crane, in the forms, with steam shovel, and hand shovel—each gang doing its part as heedless of the weather as though every man were a private contractor expecting to make a fortune, instead of each being an employe working for a wage.

In July, 1,153,729 cubic yards of rock and earth were taken out of Culebra Cut; 84,190 cubic yards of concrete were placed in the locks at Gatun, and 44,037½ cubic yards in the locks at Pedro Miguel and Miraflores; and the rainfall record for each part of the work was as follows:

Station.	1910.	1909.	Station average.	Accumulated Jan. 1-Aug 1 1910.	Years of record.	Av. accumulated for yrs of record.
	Ins.	*Ins.*	*Ins.*	*Ins.*		*Ins.*
Ancon.....	9.26	9.01	8.18	35.16	13	30.77
P. Miguel..	8.95	9.19	9.22	45.55	3	39.98
Culebra....	16.38	7.95	9.68	46.99	19	36.97
Empire....	12.60	8.27	10.24	41.11	7	34.16
Gamboa...	17.00	11.59	10.42	40.18	29	38.36
Alhajuela...	16.99	13.64	13.85	53.41	11	45.58
Bohio......	20.82	11.07	13.37	70.68	16	56.19
Gatun.....	*18.91	11.46	......	......	5	......
Cristobal...	21.07	12.83	16.50	62.07	40	53.51

*Amount to 12 o'clock noon, July 31.

Improved Order of Red Men.

The regular monthly intertribal meeting of the Improved Order of Red Men will be held at Balboa, Sunday, August 7, in the hall of Panama tribe, No. 8. The meeting will be called to order at 1.00 p. m. Important matters of business are awaiting attention, and each tribe is requested to have at least three representatives present, with authority to act for the tribe. These meetings are held in the interests of Redmanship in general, and all Red Men who can make it convenient to be in Balboa on the above date, are invited to attend.

W. H. KROMER, *D. G. I.*

Colon, R. P., July 30, 1910.

PERSONAL.

Among the passengers on the *Colon*, due to arrive at Cristobal on August 4, are Mr. Joseph Bucklin Bishop, Mrs. Bishop, and their daughter and son, and Judge Wesley M. Owen.

Missing Men.

The British Legation in Panama would be glad to receive information regarding the whereabouts of one Richard Alleyn (or Jordan), a native of Barbados, who is supposed to be in the employ of the Isthmian Canal Commission or the Panama railroad.

The American legation in Panama is in receipt of a request from St.Louis as to the whereabouts of J. W. Lewis, formerly of Keo, Arkansas, presumably located at some point on the Isthmus. Information as to the whereabouts of this man should be addressed to the American Legation, Panama.

Any one who knows of the whereabouts of Robert Moloney, who left his home in Covington, Ky., seven years ago, and was last heard from on the Isthmus about four months ago, is requested to communicate with J. W. Udry of Empire. Mr. Moloney's mother has died and his sister desires to settle the estate.

R. J. Cochrane, whose address is care of the Hotel Sans Souci, Ybor City, Tampa, Fla., desires to learn the whereabouts of Charles Potter, at one time on the Isthmus. Any one in a position to furnish this information is requested to write him.

Applications for Family Quarters.

Applications for married quarters on file on July 1, 1910, were as follows:

	No. 1* List.	No. 2 List.
Ancon	....	24
Ancon Hospital	1	5
Balboa	1 (1)	43
Bas Obispo	....	....
Corozal	2	25
Cristobal	2	160 (46)
Culebra	....	....
Empire	....	....
Gatun	3	127
Gorgona	....	70 (26)
Las Cascadas	2	5 (4)
Miraflores	1 (1)	2
Paraiso	3	38 (8)
Pedro Miguel	4	....
Porto Bello	....	26
Tabernilla	....	....
Totals	19 (2)	525 (84)
June 1	37 (3)	516 (89)
May 1	72 (22)	520 (85)
April 1	77	469

*Persons employed prior to January 1, 1908.

The figures in parentheses show the number of applicants already occupying regular or nonhousekeeping family quarters at stations other than those at which applications are filed.

Reservations on the Colon.

All available accommodations on the steamship *Colon*, scheduled to sail from Cristobal on August 10, having been reserved, no further requests for this sailing will be issued.

ANCON HOSPITAL GARDENS.

Extensions Recently Made—Names of Trees and Plants.

The Ancon hospital reservation occupies an area of 86 acres on the slope of Ancon Hill, the site having been cleared, and terraced by the French in 1882. Many of the original features remain unchanged, but the Americans have extended the garden within the reservation limits, and since April the work of determining the proper name of each tree and plant has been carried on and 150 varieties are now labeled and catalogued.

The garden in the French times was due to the initative of Soeur Marie Rouleau, the Mother Superior of the Sisters of St. Vincent, who came to the Isthmus in 1882 as nurses. Sister Rouleau had the first gardens set out and superintended the vegetable garden, which contributed toward the support of the hospital. The French gardens extended only as far as the bachelor quarters for men built by the Americans. Around and beyond the nurses' quarters, formerly known as the "Strangers' Hospital" on account of its being used solely for nonemployes, there were no formal gardens, only native trees and bushes. Plants and trees have been set out in these grounds in triangular and oval beds. At the northeast side, toward the dairy, native fruit trees have been planted, while from the hospital grounds extending to the cemetery, a row of royal palms has been set on each side of the road. Flower beds have been made around the fire station and that part of the grounds known as "The Farm," so-called because Wards Nos. 30 to 37 occupy the site of the old farm and distillery of French times.

The flower beds in front of the office of the Superintendent have been extended, and those on the hill near the building known as the Pavilion of the Sisters, which contained their dormitories and chapel, have been enlarged and the grounds around them have been planted in flowering shrubs and trees.

A nursery for cutting and seedlings occupies the old French site back of Wards Nos. 11 and 12. Plants are propagated on wooden "benches" raised about three feet from the ground, and these have recently been renewed, but the concrete basins containing water and tar to protect the plants from insects, in which the stanchions rest, have been in use since 1882. Roses are among the most difficult plants to grow on the Isthmus, but many varieties are successfully cultivated in the hospital gardens.

Of the trees in the garden only a few are native. The royal palms that line the avenues were brought from Cuba in 1883. All the other royal palms that have since been planted are the offshoots of these trees. There are two travelers' trees from Madagascar, a rubber tree from India, and native rubber trees.

A list of the trees and plants catalogued at the present time follows:

Palms—Sago palm, (Cycas revoluta); Royal palm, (Oreodoxa regia); Fan palm, (Latania Borbonica); Majestic palm, (Areca lutescens); Porto Rican Royal palm, (Oreodoxa borinquena);, Trinidad palm, (Desmoncas major); Date palm.(Phoenix); Curly palm, (Kentia Belmoreana); palm, (Kentia Fosteriana); Hat palm, (Inodes causiarum); Groo-Groo palm, (Acrocomia sclerocarpa); Sugar palm, (Arenga saccharifera); Cabbage palm, (Oreodoxa oleracea); Oil palm, (Elaeis Guineensis); Fan palm, (Erythea edulis); Thatch palm, (Thrinax parviflora); Travelers' tree, (Ravenola Madagascariensis).

Fruits and Nuts—Sapodilla, (Achras sapota); Bread-fruit, Artocarpus incisa); Papaya, (Carica papaya); Star apple, (Chrysophyllum cainito); Cocoanut, (Cocos Nucifera); Mango, (Mangifera Indica); Lime, (Citrus acida); Banana, (Musa); Avocado, (Persea gratissima); Guava, (Psidium guava); Tamarind, (Tamarindus Indica); Sweet orange, (Citrus aurantium dulcis); Lemon, (Citrus limonum); Grape-fruit, (Citrus pomelanus); Fig, (Ficus carica); Pomegranate, (Punica granatum); Soursop, (Anona muricata); Rose apple, (Eugenia jambos); Akee tree, (Cupania sapida); Mammeesapota, (Lucuma mammosa); Chocolate tree, (Theobroma cacao); Jack-fruit, (Artocarpus integrifolia); Bread-nut, (Brosimum Alicastrum): Plantain, (Musa paradisiaca); Cocoa Plum, (Chrysobolanus icacn); Guava real, (Inga spectabilis); Cashew nut, (Anacardium occidentale); Zanzibar coffee, (caffea Zanzibarensis); Tangierine orange, (Citrus Dancy).

Flowering Bushes and Plants—Cape jessamine, (Gardenia florida(; Graceful jessamine, (Jasminum gracillium); Spanish jessamine, (Jasminum grandiflorum); Star jessamine, (Rhynchospermum jasminoides); Hardy jessamine, (Jasminum officinale); Crape jessamine, (Tabernaemontana coronaria); Royal poinciana, (Poinciana regia); Poinsettia, (Euphorbia pulcherrima); Frangipani, (Plumeria alba); Bougainvillea, (Glabra Sanderiana); Otaheite gooseberry, (Cicca disticha); Surninam, cherry (Eugenia unflora); Ceiba, (Eriodenrons anfractuosum); Calladium; Apollo's laurel, (Larus nobillis); Snow-flake, (Breynia nivesa); Grandilla, (Passiflora edulis); Crotons, (Codiaeum variegatum); —— (Xanthosoma Bataviensis); Ginger, (Zingiber officionale); Snakewood, (Cecropia palmata); Leaf of Life, (Bryophyllum calycinum); Poro-Poro, (Cochlospenum Hibiscoides); Jagua, (Genipa caruto); ———, (Schizolobium excelsum); ———, Catalpa speciosa); ———, (Celtis orientalis); ———, (Furcraea); ———, (Sterculia cartagenensis), Panama; Macano, (Diphysa robiniodes); Sand box, (Hura crepitans); Vanilla, (Selenipedum Chica); Amaryllis, (Hippeastrum equestre); Pudding pipe, (Cassia fistula); Indian fig, (Ficus altissima); Cabbage tree, (Andiva inermis); Bala, (Glirivides maculata); Sigua, (———); Sappan dogwood, (Caesalpinia sappan); Crape myrtle, (Lagerstroemia Indica); White popinac, (Leucasna glauca); Henna bush, (Lawsnnia alba); Gamboge, (Garcinia morella); Cross tree, (Bramba); Dragon tree, (Dracaena lindent); Hibiscus, (Hisbiscus rosa); Spanish bayonet, (Mucca aloifolia); Coral vine, (Antigonon leptopus); Philippine Medusa, (Acalypha Sanderri); Caoutchouc vine, (Cryptostegia grandiflora); West Indian locust, (Hymenea coubaril); Century plant, (Agave Americana(; ———, (Aralia guilfoylei); ———, (Cleyera Japonica); Ginger lily, (Hedychium coronarium); ———, (Panax excesaum); ———, (Panax plumatum); ———, (Panax Victoriae); ———, (Aralia); ———, (Buahinia purpurea); ———, (Coleus); ———, (Tradescantia discolor); Wandering Jew, (Zebrina pendula); Corotu, (Enterolobium cyclocarpum); Maranon, (Anacardium rhinocarpus); ———, (Clerodendron Balfouri); ———, (Seaforthia elegans); Canna, (———); (Tradescantia discolor); Macano, (Diphysa robiniodes); Spanish lily, (Pancratium ovatum); Jobo, (Spondias lutis); Coral tree, (Ertruina rubinervia); Membrilla, (Gustavia Agustifolia); Malabar Ceiba, (Bombax Malabaricum); Corteza, (Apeiba petoumo); La Viuda, (Securidaca volubilis), Calopogonium caerulaem (Guacimo Colorado, (Luhea rufescens); Espave, (Anacardium rhinocarpus); Butterfly pea, (Clitoria Mariana); Anatto, (Bexa orellana); Cope, (———); Physic nut, (Jatropha curcas).

Miscellaneous Trees, Plants and Roots—Rubber tree, (Ficus elastica); Native rubber, (Castillo elastica); Australian silk oak, (Grevillea robusta);Eucalyptus botryoices; (———); Mahogany, (Swietonia mahogani); Bastard cedar, (Guazuma ulmifolia); ———, (Acalyphya Messaica); Pagoda tree, (Sophora japonica); Umbrella tree, (Sterculia platanifolia); Camphor tree, (Camphora), Soap berry tree, (Sapindus saponaria), Japanese bamboo, (Bambusa argentea); Bamboo, (Bambusa metake); Calabash tree, (Crescentia cujete); Jamaica cedar, (Cedrela odorata); Cassava, (Manihot Aipi); Norfolk Island pine (Araucaria excelsa). Moreton Bay fig, (Fiscus Macrophylla): Screw pine, (Pandanus utilus).

Auxiliary to B. of L. E.

The Grand International Auxiliary to the Brotherhood of Locomotive Engineers has nearly 50 members. The meetings are held at Las Cascadas on the second and fourth Fridays in each month. A social feature has recently been introduced in the adjournment at the close of each meeting to the home of one of the resident members, where refreshments are served and an informal social hour is spent. Among the members are residents of Cristobal, Gatun, Gorgona, Empire, Culebra, Paraiso, and Pedro Miguel.

SOCIAL LIFE OF THE ZONE.

Women's Clubs and Other Events.

A meeting of the executive board of the Canal Zone Federation of Women's Clubs and conference of presidents was held at the Hotel Tivoli, Monday afternoon, August 1, with an attendance of 11. The next Federation convention will be held at Gorgona on Thursday, October 13, and will consist of an afternoon session, beginning at 1.30 o'clock. The business meeting will be followed by a program consisting of papers on topics of general interest by the chairmen of committees. A suggested program includes papers on education, household economics, and program-making. A paper on general club work will be read by Mrs. Lorin C. Collins, honorary president of the Federation. A committee composed of four of the officers of the Federation was appointed to prepare a year book covering the program of the organization for the year 1909-1910.

The meeting of the Pedro Miguel Woman's Club was held at the home of the secretary on Wednesday, July 27, with an attendance of 11 members. The next meeting will be held in Empire by invitation of Mrs. T. C. Curran, a nonresident member of the club.

At the meeting of the Paraiso Woman's Club on Wednesday, July 27, Mrs. G. Ballard, secretary of the Six and Twenty Club of Wilmington, Ohio, spoke on the work of that organization which has been established twelve years.

With the cooperation of the Pedro Miguel club, the Paraiso club has arranged for transportation from Pedro Miguel on Sunday afternoon, August 7, when the I. C. C. band will give a concert at Paraiso. The date for the cake sale and dance to be held by the club is fixed for Saturday evening, August 13. Following this entertainment it is expected that the club will suspend meetings for six weeks.

The installation of officers of the Pythian Sisters, Canal Zone Temple No. 1, was held in the lodge hall, Las Cascadas, on Wednesday evening, July 27. Following the installation an informal reception was held, refreshments being served. The officers are: Most excellent chief, Mrs. Bessie Walraven; excellent senior, Mrs. Kate Poultney; excellent junior, Mrs. Melvie Hutton; manager, Mrs. Vannie Beinger; protector, Mrs. Annie Wilkins; guard, Mrs. Emma Varenkamp; master of records and seals, Mrs. Elizabeth Chambers; master of finance, Mrs. Sarah Weitz; past chief, Mrs. Elizabeth Catto.

The meeting of the Grand International Auxiliary of the Brotherhood of Locomotive Engineers, at Las Cascadas, on July 29, was followed by a reception in honor of Mrs. A. N. Naylor, a prominent member of the order who is leaving for her home in the States.

The Empire Masonic Club met at the lodge hall on July 20, with an attendance of 60 members. In connection with the club an inter-Isthmian advisory committee has been formed, and it is the purpose of this committee to arrange for a banquet to be held by Masons at the Tivoli Hotel in the near future.

A petition has been presented by the Commission employes at Corozal asking that the amusement hall at that place be put in charge of the Y. M. C. A., with an organization similar to that in other Commission clubhouses

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

The following is the standing of the teams in the bowling tournament:

TENPIN TOURNAMENT.

	Won	Lost	Per cent
Quartermasters	2	0	1000
Lock and Dam	0	0	000
Miscellaneous	0	0	000
Chief Engineers	0	2	000

DUCKPIN TOURNAMENT,

	Won	Lost	Per cent
Quartermasters	2	1	666
Chief Engineers	1	2	333
Lock and Dam	0	0	000
Miscellaneous	0	0	000

An informal social will be held at the clubhouse on Friday night of this week. Everybody is asked to come and have a pleasant evening.

It is desired that all the men that are interested in the track meet to be held September 5, at Empire, come out and join the team. Practice for the broad jump, high jump and pole vault takes place at 5 o'clock at the clubhouse every afternoon.

Men who wish to play basketball are invited to come and play Monday and Wednesday evenings. The time for gymnasium class will be changed to 7.30 o'clock and basketball practice will start at 8 o'clock. It is also planned to start a 5 o'clock class for men on Tuesdays and Wednesdays, although the time of meeting will be subject to the pleasure of the class. Any one desiring to join should leave his name at the office.

EMPIRE.

The present standing of the bowlers in the "ragtime" tournament is as follows: Edwards-Potter, 1,092; Edwards-Gorham, 1,078; Brown-Gorham, 1,068. The following 200 scores were made during the week: Sawtelle, 200, 202; Brown, 210, 207, 203; Shaughnessy, 208, 237; Nicodemus, 224, 205; Potter, 222, 211, 214; Huson, 207,213;Rodeghiera, 205; Shore, 203. The high score, 237, is now held by Shaughnessy.

The Gatun basketball team defeated Empire last Saturday night by a score of 53 to 30. The game was a good one and was enjoyed by a large crowd. Afterwards a social hour was spent by the two teams and their friends. An informal program consisting of musical and literary numbers was given.

"Stunt night" (Monday) is proving very popular in the gymnasium. A chance is given the men to indulge in their favorite game or exercise, such as handball, basketball, indoor baseball, medicine ball, running, jumping, wrestling, dumb bells, and indian clubs.

The "Mariumba" an instrument requiring four players, and resembling, when played at full volume, a good sized orchestra, will be the attraction on Friday night of this week at the entertainment by the Guatemalan quartet. This instrument is the only one of its kind on the Isthmus, and there are probably not more than one or two in the States. Members will be admitted free of charge, and nonmembers will be charged 25 cents.

In spite of a number of transfers to other clubhouses the membership increased during July from 301 to 330,

A company was definitely organized last Monday night to give a combined musical and literary program. The first part of the program will consist of solos, duets, mixed and male quartets, and a scene from one of the well known operas. The second part will probably consist of the farce, "Freezing a Mother-in-Law."

GORGONA.

The monthly song service held last Sunday night, was addressed by Miss Annia Coope, her subject being "My Experiences Among Central American Indians." On August 28, the monthly song service will be addressed by Commissioner Maurice H. Thatcher.

The monthly meeting of the executive council was held last Friday evening. Pool and bowling committees and a committee on visitation of the sick were appointed.

In the bowling contest last Saturday night with Cristobal, Gorgona won two out of three games. Following are the scores:

Cristobal.			
Heim			163
Louch	147	167	....
Barrat	142	170	103
Weston	132	177	136
Stewart	111	155	139
Collins	137	168	167
Totals	669	837	708

Gorgona.			
Gaekie			157
King	193	223	174
Jones	114	111	133
Buchanan	164	140	....
Stoehr	132	144	169
Otis	164	145	153
Totals	767	763	786

GATUN.

The "Lord Mayor's Reception" to the people of Gatun was held at the clubhouse on Wednesday evening July 27, and proved very successful.

The high scores for last week were made by Dalton, 225 in tenpins, and 131 in duckpins. Starting August 1, there will be a prize for high scores in tenpins and duckpins and for high average during the month.

CRISTOBAL.

The "Mariumba" concert given by the Guatemalan quartet last Friday evening was greatly appreciated, especially the selections from Rigoletto, Il Trovatore and Gerboma. The novelty of the instrument combined with the fine playing made a unique entertainment.

Culebra won from Cristobal in basketball last Saturday night by a score of 19 to 18. The line-up of the teams was as follows: Culebra—Cushing, Purchase, Vifquain, Tupper, Baumer, Koperski and Kersey. Cristobal—Forton, Pring, Simka, Jordan, Schwallenberg and Goodman.

Track work began Monday night with preliminary practice in all events. The outdoor track has been placed in fine condition.

A members' smoker will be held on Friday night, August 12. Many novel features are anticipated.

A launch service to Toro Point for bathing facilities for Y. M. C. A. members is being arranged. Details will be announced later.

The basketball trophy cup presented to the Cristobal Y. M. C. A. by A. G. Spalding & Bros. has arrived and is on exhibition in the lobby.

The standing of the men in the local pool tournament is as follows:

	Won	Lost
Wehmeier	8	2
Louch	8	2
Reese	8	3
Wempe	7	3

The Thursday evening discussion club was led last week by Geo. R. D. Kramer of Culebra, subject, "What is My Business Here?"

Rainfall, July 1 to 30, 1910, Inclusive.

MIDNIGNT TO MIDNIGHT.

Stations.	Maximum in one day.	Date.	Total for period.
Pacific Section—			
Ancon	2.19	10	8.83
Balboa	2.08	11	8.79
Miraflores	2.84	10	11.25
Pedro Miguel	2.27	10	8.89
Rio Grande	2.26	10	15.57
Central Section—			
Culebra	2.10	10	15.95
Camacho	2.48	11	16.01
Empire	1.60	10	12.36
Gamboa	3.21	3	16.61
Alhajuela	2.17	16	15.64
El Vigia	1.82	3	14.35
Gorgona	2.20	3–10	13.23
San Pablo	3.37	12	18.00
Tabernilla	2.73	10	15.22
Bohio	2.74	9	20.20
Trinidad*	2.87	21	11.45
Monte Lirio	2.31	9	19.33
Atlantic Section—			
Gatun	3.44	9	18.84
Brazos Brook	3.05	9	21.86
Cristobal	3.56	10	20.75
Nombre de Dios	1.91	26	15.47

*From July 1 to 23, inclusive.

Sale of Building at Bas Obispo.

There will be sold at public auction by the District Quartermaster at Bas Obispo, Canal Zone, on the premises at 3 p. m., Saturday, August 6, 1910, to the highest bidder for cash, the following Isthmian Canal Commission property:

Building No. 66, at Bas Obispo, formerly used as yardmaster's office.

This building will be removed from the premises, by the successful bidder, within fifteen (15) days from date of sale.

The government reserves the right to accept or reject any or all bids. For further information apply to the District Quartermaster, Bas Obispo, C. Z.

C. A. DEVOL, *Chief Quartermaster.*

OFFICIAL CIRCULAR.

Acting Local Auditor P. R. R.

COLON, R. P., July 30, 1910.

CIRCULAR No. 159:

All Concerned—During the absence of Mr. H. L. Stuntz, Local Auditor, on leave, Mr. R. W. Hart is appointed Acting Local Auditor, effective today.

J. A. SMITH, *General Superintendent.*

Stages of the Chagres.

Maximum height of the Chagres River above mean sea level for the week ending midnight, Saturday, July 30, 1910:

Day and Date	Station.				
	Vigia	Alhajuela	Gamboa.	Bohio.	Gatun Lake.
Height of low water above sea level—feet	125	92	46	0	0
Maximum hght. above mean sea level—feet					
Sun. July 24	127.7	94.4	49.0	18.1	17.7
Mon. July 25	128.6	95.1	50.0	17.6	17.2
Tues. July 26	129.6	95.5	49.6	17.7	17.1
Wed. July 27	130.8	96.3	50.6	17.6	17.1
Thurs. July 28	129.7	96.2	50.9	18.0	17.3
Fri. July 29	128.4	94.8	48.5	17.5	17.2
Sat. July 30	138.4	101.0	56.7	20.1	17.6

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending August 10, 1910, (75th meridian time):

Date.	Low.	High.	Low.	High.	Low.
	A. M.	A. M.	A. M.	P. M.	P. M.
August 4	......	2.45	8.53	3.01	9.20
August 5	......	3.39	9.47	3.54	10.10
August 6	......	4.27	10.35	4.41	10.56
August 7	......	5.10	11.20	5.25	11.39
			P. M.		
August 8	......	5.51	12.03	6.08	......
August 9	12.22	6.30	12.45	6.48	......
August 10	1.03	7.10	1.27	7.28	......

Misdirected Letters.

ANCON, C. Z., August 3, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts and may be secured upon request of the addressee:

Bad, Charley
Bemis, Miss Mary
Cecil, Mrs. H. E.
Clark, N. L.
Clifford, J. N.
Davies, E. M.
Ellis, H. Neil
Fields, Robert
Griffith, Geo.
Hanlan, John A.
Henill, Norman C.
Hills, Fred C.
Howard, A. F.
Lewis, Dr. J. W.
McEwen, E. W.
Moore, F. F. (2nd class)
Nethersole, Fred.........
Owen, Brady
Perry, E. W.
Quayle, Miss Margarita
Rosse, R. J.
Scott, E.
Sebrious, A.
Strobridge, Fred
Walraven, Frank

STATEMENT OF CLASSIFIED EXPENDITURES TO JUNE 30, 1910.

	Department of Civil Administration	Department of Sanitation.	Department of Construction and Engineering.	General Items.	Total.
Total to June 30, 1909	$3,427,090.29	$9,673,539.28	$69,622,561.42	$78,022,606.10	$160,745,797.09
1909—					
July	64,209.14	140,580.90	1,593,250.14	274,418.57	2,072,458.75
August	49,771.51	150,123.15	1,709,471.48	242,189.42	2,151,555.56
September	57,868.94	153,406.14	1,911,262.84	217,335.42	2,339,873.34
October	61,740.56	159,391.49	2,022,010.34	431,288.66	2,674,431.05
November	65,088.00	156,646.64	1,853,495.96	229,497.97	2,304,728.57
December	59,076.20	150,401.41	2,102,637.61	336,668.91	2,648,784.13
1910—					
January	82,756.89	163,379.71	2,673,797.41	412,915.15	3,332,849.16
February	59,251.83	136,941.46	2,126,328.26	195,770.76	2,126,750.79
March	60,522.35	136,390.97	2,344,711.03	392,015.14	2,933,639.49
April	62,722.26	149,375.00	2,611,279.63	460,945.16	3,284,322.05
May	25,176.21	141,671.68	2,495,208.10	277,438.24	2,939,494.23
June	61,167.48	164,732.40	2,856,714.25	215,853.05	2,866,761.08
Total	$4,136,441.66	$11,476,580.23	$95,922,728.47	$80,885,694.93	$192,421,445.29

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning August 2:

FRESH MEATS.

	Price.
Mutton—Stewing, per pound	7
Shoulder, neck trimmed off, (4 lbs. and over), per pound	10
Entire forequarters (not trimmed) 10 pounds and over, per pound	9
Legs, (8 to 10 pounds), per pound	19
Cutlets, per pound	20
Shortcut chops, per pound	22
Lamb—Stewing, per pound	7
Entire forequarters, neck trimmed off, per pound	10
Legs (5 to 8 pounds), per pound	24
Chops, per pound	26
Cutlets, per pound	26
Veal—Stewing, per pound	10
Shoulder for roasting (not under 4 pounds), per pound	15
Loin for roasting, per pound	19
Chops, per pound	22
Cutlets, per pound	26
Pork cuts, per pound	22
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	9
Corned, per pound	12, 14, 16
Chuck roast, per pound	13
Pot roast, per pound	15
Rib-roast, second cut (not under 3½ pounds), per pound	18
Rib-roast, first cut (not under 3 pounds), per pound	20
Sirloin roast, per pound	21
Rump roast, per pound	21
Porterhouse roast, per pound	21
Steak, Chuck, per pound	14
Round, per pound	15
Rib, per pound	20
Sirloin, per pound	21
Porterhouse, per pound	21
Rump, per pound	21
Tenderloin, per pound	24

MISCELLANEOUS.

Livers—Beef, per pound	10
Calf, each	60
Half, each	30
Sausage—Pork, per pound	17
Bologna, per pound	14
Frankfurter, per pound	14
Leberwurst, per pound	14
Sweet bread—Veal, per pound	1.20
Beef, per pound	25
Eggs, fresh, dozen	†29
Cod, fresh, per pound	7
Bluefish, fresh, per pound	14
Halibut, fresh, per pound	20

POULTRY AND GAME.

Chickens—Fancy Roasting, large, each	1.50
medium, each	1.30
Fowls, each	70, 82, 93, 1.04, 1.15
Ducks, large, each	1.50
medium, each	1.30
Broilers, each	75
Turkeys, per pound	30
Squabs, each	35
Capons, each	2.50
Pheasants, each	70, 1.00
Partridges, each	50
Grouse, each	85

CURED AND PICKLED MEATS.

Ham—English York Cut, per pound	30
German, Westphalia, per pound	36
Sugar cured, per pound	24
Sugar cured, sliced, per pound	27
Half, for boiling, per pound	25
Boiled, per pound	32
Hocks, per pound	‡8
Bacon—Breakfast, whole piece, per pound	30
Breakfast, sliced, per pound	31
Beef, salt, family, per pound	12
Pork, salt, family, per pound	18
Ox tongues, each	80
Pigs' feet, per pound	10
" tongues, per pound	16
Mutton, mess, per pound	7

DAIRY PRODUCTS.

Butter—Creamery special, per pound	40
Cheese—Roquefort, per pound	38
Philadelphia Cream, cake	10
Young America, per pound	22
Swiss, per pound	26
Edam, each	1.00
Neufchatel, each	6
Gouda, per pound	34
Parmesan, per pound	35
Milk, Briarcliff, bottle	**25
Buttermilk, bottle	**15

VEGETABLES AND FRUITS.

	Price.
Celery, per head	12
Lettuce, per head	8, 12, 16
Cucumbers, per pound	5
Potatoes, white, old, per pound	3
white, new, per pound	3
sweet, per pound	2½
Yams, per pound	3½
Onions, per pound	5
Tomatoes, per pound	8
Turnips, per pound	3
Carrots, per pound	4
Beets, per pound	5
Cauliflower, per pound	10
Cabbage, new, per pound	3½
Rhubarb, per pound	5
Green Corn, dozen	24
Squash, per pound	5
Lemons, dozen	24
Blackberries, per quart	15
Plums, per pound	10
Watermelons, each	35
Canteloupes, each	*08
Peaches, per pound	10
Huckleberries, per quart,	20
Limes, per 100	80
Oranges, dozen	12
Grapefruit, each	4
Pineapples, each	18

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*Indicates reduction from last list.
**Indicates 5 cents allowed for return of bottle.
†Indicates advance on last list.
‡Sold only from Commissaries; no orders taken for delivery.

Supplies for Canal Work.

The following steamers with supplies for the Isthmian Canal Commission arrived at the ports of Cristobal, Colon and Balboa, during the week ending July 30, 1910:

Panama, July 24, from New York, with 100 cases castings for Central Division; 190 bundles and 467 pieces castings for Mechanical Division; 45 kegs bolts, 400 cases lard oil, 25 cases wrenches and chisels 96 cases paper, 9 cases injectors for stock; and a miscellaneous cargo, the whole consisting of 1,521 packages.

Tancred, July 26, from Norfolk, Va., with 183 cases electric fuses for stock.

Atenas, July 28, from New Orleans, with 118 pieces oak lumber for Mechanical Division; 345 tons dump car parts for Cristobal shops (for erection); 30 cases lantern globes, 8.520 pieces yellow pine lumber, 621 pieces hewn pine ties for stock.

Manx Isles, July 28, from Baltimore, with 97 tons lock construction material, 110 tons valve construction material, 12 steel flat cars for Atlantic Division; 66 tons lock construction material, 58 drums turbine o.. 2 Porter locomotives for Pacific Division; 100 cast iron car wheels for Mechanical Division; 1,140 kegs wire nails, 64 cases steel shafting, 105 bundles galvanized wire, 777 bundles galvanized pipe, 2,713 pieces galvanized pipe, 3,100 pieces steel tubing, 2,500 kegs spikes 210 pieces switches, 667 bundles rail braces, 2,781 bundles steel bars, 17,579 pieces steel angles, bars, plates, etc., 496 cases turpentine, 500 kegs zinc in oil, 200 pieces terra cotta pipe, 17,500 bundles tie plates, 100 tons foundry coke, 16,826 cases dynamite, 256 cases window glass, 57 kegs washers, 221 crates tool handles for stock.

Zacapa, July 29, from New York with 216 bundles conduits, 10 cases electrical material for Atlantic Division; 11 cases electrical material, 100 bundles turnbuckles, 20 kegs drift bolts, 46 bundles drift bolts, 99 barrels creosote oil for stock.

Wotan, July 29, from Portland, Or., with 2,284,983 feet Douglas fir lumber for stock; 66,576 feet Douglas fir lumber, 665 pieces piling for Atlantic Division; 8,363 feet Douglas fir lumber for Central Division.

Cristobal, July 30, from New York, with 33,000 barrels cement for Atlantic Division; 80.000 bags cement, and 250 cross-arms for Pacific Division.

Auction of a Building.

There will be sold at public auction by the District Quartermaster at Culebra, on the premises at 3 p. m., Thursday, August 11, 1910, to the highest bidder for cash, the following Isthmian Canal Commission property:

Building No. 313, at Enterprise.

This building will be removed from the premises, by the successful bidder, within 15 days from date of sale. The government reserves the right to accept or reject any or all bids. For further information apply to the District Quartermaster, Culebra, C. Z.

C. A. Devol, *Chief Quartermaster.*

The following vessels arrived at and departed from the port of Balboa during the week ending July 30:

Arrivals—July 25, *Esmeraldas*, from Valparaiso, and *Newport*, from San Francisco; July 26, *Quillota*, from south ports; July 28, *Quito*, from Buenaventura, and *Wotan*, from Seattle.

Departures—July 24, *Pecian*, for Port Harford; July 26, *Loa*, for south ports; July 27, *City of Para*, for San Francisco, and *Ecuador*, for Guayaquil; July 28, *Esmeraldas*, for Valparaiso.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Colon	P. R. R.	Friday	July 29
Advance	P. R. R.	Thursday	Aug. 4
Panama	P. R. R.	Thursday	Aug. 11
Allianca	P. R. R.	Wednesday	Aug. 17
Colon	P. R. R.	Tuesday	Aug. 23
Advance	P. R. R.	Monday	Aug. 29
Panama	P. R. R.	Monday	Aug. 29
Panama	P. R. R.	Saturday	Sept. 3
Allianca	P. R. R.	Saturday	Sept. 10
Colon	P. R. R.	Saturday	Sept. 17
Advance	P. R. R.	Friday	Sept. 23
Panama	P. R. R.	Thursday	Sept. 29

CRISTOBAL TO NEW YORK.

Allianca	P. R. R.	Thursday	Aug. 4
Cristobal	P. R. R.	Monday	Aug. 8
Colon	P. R. R.	Wednesday	Aug. 10
Advance	P. R. R.	Tuesday	Aug. 16
Panama	P. R. R.	Tuesday	Aug. 23
Allianca	P. R. R.	Monday	Aug. 29
Colon	P. R. R.	Monday	Sept. 5
Advance	P. R. R.	Saturday	Sept. 10
Panama	P. R. R.	Friday	Sept. 16
Allianca	P. R. R.	Thursday	Sept. 22
Colon	P. R. R.	Thursday	Sept. 29

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible, leaving Cristobal on or about the 4th and 25th of each month. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

NEW YORK TO COLON.

Almirante	U. F. C.	Thursday	July 28
Prinz Aug. Wilhelm	H.-A.	Saturday	July 30
Santa Marta	U. F. C.	Thursday	Aug. 4
Tagus	R.-M.	Saturday	Aug. 6
Metapan	U. F. C.	Thursday	Aug. 11
Prinz Joachim	H.-A.	Saturday	Aug. 13
Zacapa	U. F. C.	Thursday	Aug. 18
Oruba	R.-M.	Saturday	Aug. 20
Almirante	U. F. C.	Thursday	Aug. 25
Prinz Aug. Wilhelm	H.-A.	Saturday	Aug. 27
Magdalena	R.-M.	Saturday	Sept. 3
Clyde	R.-M.	Saturday	Sept. 17
Atrato	R.-M.	Saturday	Oct. 1

COLON TO NEW YORK.

Zacapa	U. F. C.	Friday	Aug. 5
Oruba	R.-M.	Wednesday	Aug. 10
Almirante	U. F. C.	Friday	Aug. 12
Prinz Aug. Wilhelm	H.-A.	Tuesday	Aug. 16
Santa Marta	U. F. C.	Friday	Aug. 19
Magdalena	R.-M.	Wednesday	Aug. 24
Metapan	U. F. C.	Friday	Aug. 26
Prinz Joachim	H.-A.	Tuesday	Aug. 30
Zacapa	U. F. C.	Friday	Sept. 2
Clyde	R.-M.	Wednesday	Sept. 7
Atrato	R.-M.	Wednesday	Sept. 21
Tagus	R.-M.	Wednesday	Oct. 5

NEW ORLEANS TO COLON.

Turrialba	U. F. C.	Saturday	July 30
Abangarez	U. F. C.	Saturday	Aug. 6
Atenas	U. F. C.	Saturday	Aug. 13
Turrialba	U. F. C.	Saturday	Aug. 20
Abangarez	U. F. C.	Saturday	Aug. 27
Atenas	U. F. C.	Saturday	Sept. 3

COLON TO NEW ORLEANS.

Atenas	U. F. C.	Thursday	Aug. 4
Turrialba	U. F. C.	Thursday	Aug. 11
Abangarez	U. F. C.	Thursday	Aug. 18
Atenas	U. F. C.	Thursday	Aug. 25
Turrialba	U. F. C.	Thursday	Sept. 1
Abangarez	U. F. C.	Thursday	Sept. 8

COLON TO BARBADOS, CALLING AT TRINIDAD.

Tagus	R.-M.	Tuesday	Aug. 16
Oruba	R.-M.	Tuesday	Aug. 30

The next sailings of the Leyland Line will be as follows: *Mexican*, August 13, for Pensacola, via Kingston, Ja.; *Antillian*, for New Orleans, via Kingston, Ja.

Hamburg-American steamers leave for New York at 10 a. m., and for Port Limon every Tuesday or Wednesday.

Royal Mail steamers leave for New York on alternate Wednesdays at 10 a. m.; for Southampton on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans leave on Thursday at 3 p. m., and for New York on Friday at 10 a. m.

Sailings of the French Line (Cie Generale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, AUGUST 10, 1910. No. 50.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Revised Statement of Excavation

The statement of Canal excavation published in this issue of THE CANAL RECORD contains a new estimate of the amount of material yet to be removed in each of the construction divisions, the total increase being 7,871,172 cubic yards. Of this amount, 7,330,525 cubic yards are added to the estimate of excavation in the Central Division, to allow for slides in Culebra Cut, for silting in the Chagres section, for lowering the bottom of the Canal from 40 to 39 feet above sea level in the Chagres section, and for excavating a ship basin north of Pedro Miguel Locks. A comparative statement showing the original and revised estimates follows:

ESTIMATE Of December, 1908.		REVISED ESTIMATE Of July 1, 1910.	
Atlantic Division		Atlantic Division	
Wet.......	33,515,399	Wet........	35,084,291
Dry.......	9,561,911	Dry........	8,273,054
Total....	43,077,310	Total.....	43,357,345
Central Division		Central Division	
Culebra Cut	78,042,295	Culebra Cut	84,186,724
Other......	11,752,198	Other......	12,938.294
Total....	89,794,493	Total......	97,125,018
Pacific Division		Pacific Division	
Wet.......	35,864,211	Wet.........	35,675,261
Dry.......	5,930,580	Dry.........	6,380,142
Total.....	41,794,791	Total......	42,055,403
Grand total.	174,666,594	Grand total.	182,537,766

Lights at Shelter Cove.

Four lights have recently been installed at Shelter Cove, white and red lights respectively on the starboard and port side of the entrance, and two white lights on the shore west of the harbor, which range down the center line of the entrance. The locations of these lights have been determined in reference to Toro Point light, in order that they may be placed on existing charts.

Canal Work in July.

The grand total of Canal excavation in July was 2,406,288 cubic yards, of which 2,371,583 cubic yards were charged to "work excavation" and 34,705 cubic yards to "plant." The dry excavation amounted to 1,466,014 cubic yards and was principally by steam shovels. The dredges removed 940,274 cubic yards in addition to the amount pumped into Gatun Dam by suction dredges. The progress on the locks at Gatun and Pedro Miguel is referred to elsewhere in this issue.

In the Atlantic Division, the total excavation was 545,047 cubic yards. Of this total, 120,555 cubic yards were dry excavation and the remainder was removed by the dredges in the Atlantic entrance.

The total excavation in the Central Division was 1,328,169 cubic yards, all but 8,253 cubic yards of which was chargeable to work excavation.

In the Pacific Division, the total excavation was 533,072 cubic yards, all but 17,290 cubic yards of which was taken out by dredges at work in the Pacific entrance.

A detailed statement of work in the three divisions follows:

ATLANTIC DIVISION

LOCALITY.	"Work." Excavation.	"Plant." Excavation.	Total excavation
Dry excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, Dam and Spillway..................	95,503	25,052	120,555
Mindi....................	....	....	....
Total................	95,503	25,052	120,555
Wet excavation—			
Atlantic entrance	423,092	1,400	424,492
Locks, Dam and Spillway................	....	....	....
Total................	423,092	1,400	424,492
Total wet and dry excavation.........	518,595	26,452	545,047
CENTRAL DIVISION.			
All dry excavation—			
Culebra Cut............	1,153,810	3 209	1,157,019
Chagres section........	166,106	5,044	171,150
Obispo Diversion.. ...	....	....	....
Total	1,319,916	8,253	1,328,169
PACIFIC DIVISION.			
Dry excavation—			
Locks,Dams and Spillways.............	16,400	....	16,400
Diversions.............	....	....	....
Prism, south of Pedro Miguel Locks........	890	....	890
Total.................	17,290	....	17,290
Wet excavation—			
Pacific entrance	515,782	....	515,782
Miraflores Locks.....	....	....	....
Diversions.............	....	....	....
Total................	515,782	....	515,782
Total wet and dry excavation.........	533,072	....	533,072
TOTAL CANAL EXCAVATION.			
Dry excavation	1,432,709	33,305	1,466,014
Wet excavation	938,874	1,400	940,274
Total....	2,371,583	34,705	2,406,288

Mean rainfall along Canal (eleven stations) 15.65 inches.

By "Work" Excavation is meant excavation actually made for one of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc.; that is, it represents material taken from the area to be occupied by the Canal, and constitutes excavation useful for the completed Canal.

By "Plant" Excavation is meant excavation outside of any of the constituent parts of the Canal, such as Prism, Diversions, or Locks, etc. It includes material necessary to be excavated for construction purposes only and is chargeable against the particular plant item for which it is performed, such as Prism, Diversions, Locks, etc.

DAM AND LOCK CONSTRUCTION.

MATERIAL.	Atlantic.	Pacific.	Total.
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Concrete laid in locks.	84,001	45,136	129,137
Concrete laid in dams and spillways.......	2,516	....	2,516
Fill placed in dams	649,805	4,290	654,095

Dredge Crew Working on Varying Shifts.

One of the two crews employed on the ladder dredge *Mole* at work removing rock shoals and hard clay at Stations 2220 and 2280 in the Canal prism, a short distance out from the Panama railroad wharf at Balboa, was taken off on Thursday, August 4, because the ladder of the dredge is unable to go deeper at these two points when the tide is above mean sea level. The crew remaining on the dredge, 21 men in all, now work in two shifts of six hours each, the time the shifts begin depending on the variations of the tide. The dredge is operated when the tide ebbs from mean sea level to low tide and also on the rise of the tide to the mean stage, two periods of six hours each in the twenty-four, but is compelled to remain inactive above that point. It is excavating principally in the patches of rock broken up by the *Vulcan*, and is making fair progress. The men are fed and housed on the vessel and leave it only on Sundays.

Navigation in Atlantic Entrance.

Five miles and a half of the Canal at the Atlantic entrance will be opened to navigation for the sand and rock fleet of the Atlantic Division this week. Tugs with barges in tow from the quarry and crusher at Porto Bello and from the sand pits at Nombre de Dios, which now enter the French canal at Cristobal, will enter it at Mindi, and from that point continue, as heretofore, through the old channel to Gatun. The detour necessary to enter the French canal at Cristobal, and the transfer of tows at dock No. 13 will thus be avoided.

Since the completion of the docks at the material storage sheds and piles at Gatun Locks in the summer of 1909, the French canal has been used by the rock and sand barges, and for delivering cement at Gatun, the distance from Cristobal being about seven miles. The ease with which the rock and sand could be delivered by water without a transfer of cargo was a determining factor in locating the quarries at Porto Bello and the sand pits at Nombre de Dios. In order that the tugs and tows might move freely through the old canal it was necessary to dredge it to a depth of 15 feet, as the channel had shoaled

NOTES OF PROGRESS.

(Continued.)

at various points since the dredging was abandoned by the French. Dredging has also been necessary to maintain this channel, especially between Cristobal and Mindi because the Mindi River crosses the old canal and in each rainy season carries considerable silt into it. This section in which the cost of maintenance is highest will now be abandoned by the heavy tows which will enter the French canal at Mindi by way of the American Canal.

The part of the new Canal to be used is not completed, but a channel more than 15 feet deep at the shallowest point and 100 feet wide at the narrowest point has been made, and the dredges are constantly broadening and deepening it to the full width of 500 feet and the full depth of 45 feet.

Five miles of the Canal at the Pacific entrance are in use by vessels of all kinds, and the 5½ miles at the Atlantic entrance now to be used for construction purposes, will make 10½ miles already actually useful.

Bids for Pacific Division Ladder Dredge.

Bids were opened at the Washington office on June 27 for a seagoing ladder dredge to be used in connection with the operations in the Pacific entrance to the Canal. Three proposals were received, one from an American firm and two from builders in Scotland. The bid of the Union Iron Works of San Francisco was $874,146, delivery to be made in fourteen and one-half months; that of Lobnitz & Company, Ltd. of Renfrew, Scotland was $449,000, delivery to be made in 365 days, and that of William Simons & Company, Ltd., also of Renfrew, was $399,340, delivery to be made in 365 days. The difference between the bid of the Union Iron Works and that of the lowest Renfrew firm is $474,806, an amount considerably greater than the whole bid of William Simons & Company, Ltd. In view of this fact the Chairman and Chief Engineer has recommended that the contract be awarded to the lowest bidder, and in case this is found impracticable, that no award be made.

The specifications covering the construction of the dredge, which will be the largest of the ladder dredges at work on the Canal, provide that it must have buckets of two cubic yards capacity; be equipped to discharge overboard into barges as well as into its own bins, the latter to have a carrying capacity of 1,200 cubic yards, and that it must be erected complete at the manufacturers' yards and delivered at Balboa in one year's time, making the voyage under its own steam. A representative of the Purchasing Department of the Commission is to be constantly on hand during the building of the dredge.

Cristobal Commissary Cold Storage.

Fresh meats, which have heretofore been supplied on orders for delivery only, were placed on sale at retail at the Cristobal commissary on Monday, August 8. The new plan involved a number of changes in the building. The open space between the hardware and furniture department and the grocery section for silver employes, formerly used for the sale of fruits, vegetables and cold storage supplies other than fresh meats, has been enclosed giving the building an unbroken front.

The ice box, which did duty here and was the first one installed in the commissaries of the Panama railroad, has been replaced by a modern ice box of greater capacity. It is 18 by 22 feet in size, with outer and inner compartments. The fresh meats are kept in the inner compartment, a temperature of about 39 degrees above zero being maintained. In the outer compartment northern fruits and other easily perishable supplies are kept, and there is a butcher's block where the meats are cut up for purchasers. Orders are filled by means of a drawer fitted with a lid on the inside of the ice box to prevent cold air from escaping when the drawer is opened from the outside. The sides of the ice box are 13 inches thick, including the lining of cork and other materials. The system of overhead icing is employed and there is storage capacity for 50 blocks of ice, equivalent to 7½ tons.

In the rear of the ice box a small extension has been made to the commissary to admit of a space for handling salt meats, salt fish, and supplies not of a quickly perishable character. The cold storage department opens directly on the street and contains counters on two sides, one facing the grocery section for silver employes, and the other, for gold employes, facing the front. The tops of the counters are covered with white oilcloth, and the entire interior of the department has been renovated and repainted, the ice box having been given a heavy coat inside and out of white enamel paint.

Proposals for Valve Operating Machinery.

Proposals for furnishing and erecting the machinery to operate the Stoney gate valves for controlling the main culverts, and machinery to operate the cylindrical valves for controlling the lateral culverts of the upper lock at Gatun and at Pedro Miguel will be opened at the Washington office on September 16. The list of machinery parts follows:

Proposal 1—Two Stoney gate valve machines, one right and one left, complete.

Proposal 1a—Forty-six Stoney gate valve machines, 23 right and 23 left, complete.

CLASS 2.

Proposal 1—Two cylindrical valve machines, complete.

Proposal 1a—Thirty-eightcy lindrical valve machines; complete.

CLASS 3.

Proposal 1—Two motors for Stoney gate valve machines, and two motors for cylindrical valve machines.

Proposal 1a—Forty-six motors for Stoney gate valve machines; 38 motors for cylindrical valve machines.

CLASS 4.

Proposal 1—Two limit switches for Stoney gate valve machines, and two limit switches for cylindrical valve machines.

Proposal 1a—Forty-six limit switches for Stoney gate valve machines; 38 limit switches for cylindrical valve machines.

Bids must include delivery on the Isthmus and erection in the proper locations at the contractor's expense.

It is the intention of the Commission to purchase at once, under the specifications, machinery and parts complete for two Stoney gate valve machines and for two cylindrical valve machines under proposal No. 1 made by bidders. The Commission reserves the right after test of the machines and parts ordered under proposal No. 1 to order in addition the machines and parts tendered under proposal No. 1a.

WORK OF STEAM SHOVELS.

Records Made in Central Division in July.

During the month of July the total amount of material excavated in the Central Division was 1,328,169 cubic yards, of which 295,521 cubic yards were classified as earth and 1,032,648 cubic yards as rock. Of this quantity, 1,318,873 cubic yards were removed by steam shovels and 9,296 cubic yards by hand or contract.

The high record of the month was made by shovel No. 207, working 25 days in the Culebra District, which excavated 54,780 cubic yards of rock. The second best record of the month was made by shovel No. 223, working 25 days in the Culebra District, which excavated 44,080 cubic yards of rock.

The best record of a shovel of the 70-ton class was made by shovel No. 131, working in the Chagres District, which excavated 28,987 cubic yards of earth by casting below grade.

Shovel No. 212, working in the Culebra District, made the high record for one day by excavating 2,755 cubic yards of earth on July 30.

Shovel No. 128, working in the Chagres District, excavated 1,330 cubic yards of earth on July 20, being the high record for one day for a 70-ton shovel during the month.

Except where noted, monthly records are computed by place measurement, while the daily records are based on car measurement. The best records for the month and for one day in each district are shown below:

BEST RECORDS FOR THE MONTH.

CHAGRES DISTRICT.

Shovel No.	Cubic Yards.			No. of days at work.
	Earth.	Rock.	Total.	
131	28,987	....	28,987	*
115	24,461	....	24,461	22

EMPIRE DISTRICT.

Shovel No.	Earth.	Rock.	Total.	No. of days at work.
264	....	43,160	43,160	25
229	....	42,940	42,940	25

CULEBRA DISTRICT.

Shovel No.	Earth.	Rock.	Total.	No. of days at work.
207	....	54,780	54,780	25
223	....	44,080	44,080	25

*Casting below grade.

BEST RECORDS FOR ONE DAY.

Shovel.	Location.	Date	Character of material excavated.	Cubic Yards.
128	Chagres	July 30.	Earth	1,330
128	Chagres	July 6.	Earth	1,260
115	Chagres	July 27.	Earth	1,260
229	Empire	July 12.	Rock	2,572
220	Empire	July 2.	Rock	2,544
212	Culebra	July 30.	Earth	2,755
212	Culebra	July 29.	Earth	2,717
212	Culebra	July 27.	Earth	2,603
206	Culebra	July 5.	Rock	2,527
231	Pedro Miguel	July 9.	Rock	2,470
109	Pedro Miguel	July 28.	Earth	1,030

Fire at Gatun.

A fire in the bachelor quarters on the second floor of the telephone exchange building at Gatun on the afternoon of July 29, caused about $350 of damage. No cause has been found for the fire. Both the volunteer and paid fire companies responded to the alarm and so quickly was the fire extinguished that the work of the exchange was interrupted only 45 minutes.

LOST—On Sunday, July 31, a lady's size, open face, gold watch, initials "M. I. G." on the back and full name inside. Return to W. E. Grant, house No 46, Empire.

SAND SHIPMENTS.

The Pacific Division to Cease Supplying Sand to Gatun After August 15.

Notification has been given by the Pacific Division that on and after August 15 shipments of sand to the Atlantic Division for use in the construction of Gatun Locks will be discontinued. From December, 1909, to July, 1910, inclusive, the sand taken by the Atlantic Division from the Point Chamé deposits amounts to nearly three-fourths of the total quantity delivered to the works at Pedro Miguel and Miraflores. The storage trestles at the Miraflores Locks, which, when completed, will have a capacity equal to about one-fourth of the amount of rock and sand required in the building of the two locks at that point, will provide space, in conjunction with the smaller trestles at Pedro Miguel, for all the sand the Balboa water transportation service will be able to deliver for some time to come. Furthermore, the increased concrete output at Pedro Miguel since the placing of the handling plant in service, and the extension of operations in the Miraflores Locks will require a greater amount of sand for the Pacific Division works than heretofore. When the storage trestles at Miraflores are filled, it will be possible, at least for a time, to shut down operations at the Balboa unloading dock, and to place the dredge now engaged in sand excavation at Point Chamé, together with the barges of the transportation service which are of the bottom dump type, again in service in the Canal prism, thereby effecting an economy and at the same time hastening the completion of the dredging work in the Pacific entrance.

The following table shows the distribution of sand from the Balboa dock for the past eight months:

Month.	Pacific Division.	Atlantic Division	Miscellaneous.	Total.
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
December....	6,222	11,965	655	18,842
January......	9,393	14,155	65	23,613
February.....	18,585	8,595	220	27,400
March.......	25,503	4,585	658	30,746
April........	20,949	7,493	1,434	29,876
May.........	18,924	14,111	2,205	35,240
June.........	17,574	14,844	922	33,340
July.........	14,700	16,474	1,386	32,560
Total......	131,850	92,222	7,545	231,617

Sand was first dredged at Point Chamé on July 26, 1909. From July to November, inclusive, the output was small, aggregating for the entire period approximately 32,800 cubic yards. The total amount dredged from the beginning of operations up to and including July, 1910, is about 264,417 cubic yards.

The statement of the distribution of sand at Balboa for the month of July is as follows:

Destination.	Number of Cars.	Cubic Yards.
Atlantic Division................	845	16,474
Pacific Division.................	1,224	14,700
Central Division.................	32	441
Quartermaster's Department......	6	115
Panama railroad.................	4	95
Miscellaneous...................	30	735
Total..........................	2,141	32,560

Transfer of Frijoles Police Station.

The police station at Frijoles has been transferred to the village of New Frijoles on the Panama railroad relocation. The new site will be on the south side of the railroad track, which at this point runs nearly east and west, on a high bank overlooking the recently platted town. This will give two police stations, or outposts, on the relocation between Gatun and Gamboa, one being located at Monte Lirio, about seven miles from Gatun, where a first-class policeman, having an office and quarters in a box car, is in charge. He patrols the railroad construction camp at Monte Lirio, and along the line as far as Gatun. The section between New Frijoles and Monte Lirio, also about seven miles in length, has been policed by a member of the force at Frijoles, going over the route on work trains. The removal of the station to New Frijoles will centralize police work in this section.

Improvements to Interlocking System.

The work of installing a new plant at Corozal in connection with the Panama railroad's interlocking system is in progress. A block cabin has been built a short distance north of the hotel and will be equipped with a 15-lever machine of the improved Saxby and Farmer type. This machine will operate crossover connections between the new line of the Panama railroad and the double track line; also, a crossover between the tracks of the Pacific Division and the double track line. The crossover south of the depot will be abandoned and the block at the depot will be changed to the new cabin where a 3-arm semaphore will control all trains over this block, one arm for main line trains, one arm for Central Division trains from the double track, and one arm for Pacific Division trains. Distance switch signals will also be erected at nearby points on the new line, the double track line, the Pacific Division tracks and the commissary siding, which will be habitually set against trains approaching on any of these tracks when necessary. The signal control in these devices is effected by means of a 2-lever switch and signal arrangement, which provides a signal lever interlocked with a switch lever, the operation being controlled by the mechanism in the block cabin. An illustration of the working of these signals is, that when a train from the relocated line going south is given the block to use the crossover to the double track, all signals are set against trains on other tracks. They are thus held until the track is clear when they, in turn, are given the block. The interlocking plant at Corozal makes seven now in use in the Panama Railroad Company's system.

Changes are also being effected in the plant at Paraiso. The site of the block cabin will be changed to the site of the present depot, and part of the depot building will be used in the building of the new cabin. A 7-lever machine will operate the block signaling apparatus and distance switch signals at this point. Crossovers will be installed connecting the Paraiso service track with the double track line via. Pedro Miguel. The improvements at Corozal and the changes at Paraiso were made necessary by the Panama railroad relocated line.

Burglaries.

Bachelor quarters at Empire and Culebra were entered early in the morning of August 8 by burglars who were scared away before they had procured any valuables. At Empire the dogs carried a scent to the corral and the night watchman there has been held as a suspect. No trace was found of the Culebra burglar. A number of small burglaries have recently been reported from the "bush" and from Panama and Colon.

EXECUTIVE ORDER.

Rules and Regulations to Facilitate and Protect the Canal Work.

By virtue of the authority vested in me, I hereby establish the following Executive Order for the Canal Zone and its auxiliary lands and waters:

Section 1. The Isthmian Canal Commission is hereby empowered to establish rules and regulations to facilitate and protect the works of excavation, dredging and other Canal construction within the Canal Zone and the lands and waters auxiliary thereto; as well as such rules and regulations respecting the use, or passage through any of the Canal channels, lakes and other auxiliary waters as from time to time the Commission may deem needful to fully protect such channels, lakes and auxiliary waters, and to facilitate and protect the operations of Canal construction therein.

The rules and regulations that may be adopted by the Canal Commission in accordance with the provisions of this Order shall have the force and effect of law when approved by the Secretary of War.

Section 2. Any person violating any of the provisions of the rules and regulations established hereunder shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine not to exceed five hundred dollars ($500), or by imprisonment in the district jail for not more than six months, or by both such fine and imprisonment, in the discretion of the court. WM. H. TAFT.

THE WHITE HOUSE,
July 25, 1910.

[No. 1230]

Porto Bello Crusher.

A statement of the work done at Porto Bello crusher, by days, for the week ending August 6, follows:

DATE.	Hours worked.	Cubic Yards.
August 1......................	11:55	2,891
August 2......................	10:28	2,241
August 3......................	11:45	3,159
August 4......................	8:40	1,804
August 5......................	12:35	3,444
August 6......................	10:40	2,852
Total......................	66·03	16,391

Ancon Rock Crusher.

A statement of the rock crushed at Ancon quarry during the week ending August 6, follows:

DATE.	Hours worked.	Cubic Yards.
August 1......................	7:40	2,220
August 2......................	7:40	2,265
August 3......................	5:05	1,690
August 4	5:25	1,845
August 5......................	6:25	1,935
August 6......................	6:15	2,700
Total......................	38:30	12,655

Work of Track Shifters.

A statement of track raised and thrown by machines in the Central Division during the month of July, follows:

Shifter No.	Location.	Amount.
		Feet.
No. 5..........	Tabernilla............	105,160
Nos. 1 and 6....	Mamei...............	52,550
No. 7..........	Santa Cruz Relocation..	92,087
No. 8..........	Miraflores............	135,387
No. 2..........	Balboa...............	187,600
Total........	....	*572,784

*Or 108.48 miles.

RECORD OF CANAL WORK SINCE AMERICAN OCCUPATION.

MONTHLY TOTALS BY CUBIC YARDS OF EXCAVATION AND LOCK AND DAM CONSTRUCTION.

[*All figures are of work useful for the completed Canal.*]

DRY EXCAVATION.

CENTRAL DIVISION.

MONTHS.	CULEBRA SECTION.*							CHAGRES SECTION.**			
	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1907.	1908.	1909.	1910.
January		70,650	120,990	566,750	1,227,022	1,150,249	1,323,693		169,447	389,399	175,802
February		75,200	168,410	639,112	1,248,265	1,194,454	1,259,173		200,145	450,182	286,309
March		132,840	239,178	815,270	1,290,885	1,434,597	1,509,728		324,233	619,491	484,846
April		126,749	213,177	879,527	1,242,574	1,272,746	1,288,845		329,483	510,020	428,777
May	27,556	75,935	196,209	690,365	960,840	1,126,963	1,099,279		235,902	386,170	248,974
June	32,551	76,905	212,623	624,586	1,134,032	1,242,134	1,305,141		322,145	275,900	164,389
July	31,599	78,570	159,789	770,570	1,121,325	1,200,828	1,153,810		345,757	233,897	166,106
August	35,056	49,210	244,823	786,866	1,173,800	1,173,370		2,900	366,810	231,543	
September	25,220	44,085	291,452	753,468	1,122,860	1,235,978		21,546	346,948	235,818	
October	19,695	52,940	327,009	834,499	1,160,101	1,302,901		25,627	424,911	221,409	
November	28,860	60,540	221,642	790,632	1,022,576	1,070,792		44,044	336,390	93,619	
December	42,935	70,630	307,689	1,025,485	1,210,046	1,152,022		98,652	383,948	105,044	
Totals	243,472	914,254	2,702,991	9,177,130	13,914,326	14,557,034	8,939,669	192,769	3,786,119	3,752,492	1,955,203

MONTHS.	ATLANTIC DIVISION.					PACIFIC DIVISION.					
	COLON (MINDI)†		GATUN LOCKS, DAM AND SPILLWAY.††			PEDRO MIGUEL LOCKS.‡			MIRAFLORES LOCKS, DAMS AND SPILLWAY.‡‡		
	1909.	1910.	1908.	1909.	1910.	1908.	1909.	1910.	1908.	1909.	1910.
January	45,664		292,155	102,690	125,011		83,726	27,320	7,203	61,202	31,479
February	46,046		282,797	95,031	123,738		58,242	9,486	39,046	53,689	15,300
March	70,713		374,598	90,051	132,007		95,624	6,784	73,194	51,417	18,184
April	74,368		373,456	70,009	103,243		101,365	9,129	98,943	60,060	12,148
May	71,407		266,747	52,786	82,958		57,523	10,405	73,023	47,588	20,250
June	80,101		244,951	36,556	88,088	13,228	70,971	8,420	68,691	55,653	21,994
July	82,378		213,359	39,058	95,503	22,648	77,503	4,410	104,369	50,999	11,990
August	66,249		188,262	40,346		22,217	58,025		94,248	35,446	
September	61,437		145,990	49,945		28,833	48,825		90,923	31,803	
October	72,643		154,064	57,321		48,875	39,002		74,700	25,349	
November	42,009		118,278	63,452		55,401	20,207		52,930	18,644	
December			119,904	96,590		65,578	28,342		69,650	20,083	
Totals	713,015		2,774,561	793,835	750,548	256,780	739,355	75,954	846,920	511,933	131,345

*Total to August 1, 1910, 50,448,876 cubic yards.

**Total to August 1, 1910, 9,686,583 cubic yards.

†Total to August 1, 1910, 1,476,821 cubic yards; in this total are included 172,851 cubic yards removed in 1907, and 590,955 cubic yards removed in 1908.

††Total to August 1, 1910, 5,685,751 cubic yards; in this total are included 26,628 cubic yards excavated October to December, 1906, and 1,340,179 cubic yards in 1907; there were also 38,425 cubic yards removed by dredges at Gatun Dam site in 1907.

‡Total to August 1, 1910, 1,072,089 cubic yards.

‡‡Total to August 1, 1910, 1,490,198 cubic yards; there were also 78,233 cubic yards excavated at Balboa locks and dams in 1907; and 239,891 cubic yards at different points in prism to August 1, 1910.

WET EXCAVATION.

MONTHS.	ATLANTIC DIVISION.						PACIFIC DIVISION.						
	ATLANTIC ENTRANCE.§				GATUN LOCKS.		PACIFIC ENTRANCE.§§						Miraflores Locks.§§§
	1907.	1908.	1909.	1910.	1908.	1909.	1905.	1906.	1907.	1908.	1909.	1910.	1910.
January	111,100	490,701	521,050	510,055		97,043		95,940	94,710	460,250	469,529	518,936	
February	110,002	427,722	444,910	493,448		132,291		95,940	93,480	663,519	671,477	285,791	
March	84,145	546,886	461,208	412,325		141,838		116,820	92,319	783,281	865,696	462,588	
April	69,889	496,366	470,635	190,574		17,938		110,700	104,855	676,539	731,767	534,322	
May	133,847	564,386	315,370	447,578		52,011		112,340	122,157	530,466	720,753	484,509	
June	124,118	572,749	182,575	458,021		38,829	50,676	62,697	133,575	656,621	844,685	475,486	
July	109,922	625,497	348,451	423,092			41,533	98,400	108,338	696,170	733,181	515,782	
August	194,297	638,217	422,846				54,530	111,930	168,284	737,774	623,263		
September	403,842	624,776	410,574				114,308	105,780	153,975	750,080	662,976		
October	415,120	505,260	314,778				81,836	97,170	357,122	762,276	720,920		
November	422,797	570,832	457,889				71,176	92,988	365,423	609,089	627,791		
December	442,835	679,604	489,121		8,583		71,094	90,528	349,551	729,960	727,460		
Totals	2,621,914	6,742,996	4,839,407	2,935,093	8,583	479,950	485,153	1,191,233	2,143,789	8,056,025	8,399,498	3,277,414	

§Total to August 1, 1910, 18,566,875 cubic yards; in this total are included 399,820 cubic yards excavated in 1905, and 1,027,645 cubic yards in 1906.

§§Total to August 1, 1910, 23,553,112 cubic yards; there were also 172 cubic yards removed by steam shovels during October, 1908.

§§§Total to August 1, 1910, 309,647 cubic yards, all of which was taken out by dredge in 1909.

CONCRETE IN LOCKS AND DAMS.

MONTHS.	GATUN LOCKS.			PEDRO MIGUEL LOCKS.			MIRAFLORES LOCKS.	
	1909.	1910.	1911.	1909.	1910.	1911.	1909.	1910.
January		54,136			16,273			
February		55,696			13,218			146
March		60,998			18,793			314
April		63,227			24,522			13
May		74,273			29,576			27
June		89,391			30,631			1,603
July		84,001			41,464		28	3 672
August	1,298						74	
Sept	12,294			2,370				
October	29,378			8,310				
Nov'mber	30,270			10,169				
December	42,832			13,007				
Total	116,072	481,722		33,856	174,477		102	5,775

From March 17, 1909, to August 1, 1910, there were placed in the Spillway of Gatun Dam 87,212 cubic yards of concrete, including 2,516 cubic yards placed in July, 1910; in Miraflores Dam there were placed 321 cubic yards up to August 1, 1910.

FILL PLACED IN DAMS.

MONTHS.	GATUN.*		PEDRO MIGUEL.†	MIRAFLORES.‡	
	1910.		1910.	1910.	
	Wet.	Dry.	Dry.	Wet.	Dry.
January	178,254	236,994			28,151
February	292,215	271,788	11,510		1,438
March	210,387	332,661	22,860		5,385
April	242,440	263,437	31,394		
May	249,283	204,275	23,572		6,480
June	384,166	271,283	1,350		7,356
July	462,092	187,713			4,290
August					
September					
October					
November					
December					
Total	2,018,837	1,768,151	90,686		53,100

*Dry fill begun in January, 1907, and 2,096,477 cubic yards of wet, and 3,241,418 cubic yards of dry fill were placed in 1907, 1908 and 1909.

†170,166 cubic yards placed in dams up to December, 1909, inclusive.

‡138,587 cubic yards of wet fill and 472,091 cubic yards of dry fill were placed in dams up to December, 1909.

CANAL EXCAVATION TO DATE.

By French Companies		78,146,960
French excavation useful to present Canal		29,908,000
By Americans—		
Dry excavation	70,178,614	
Dredges	42,956,592	
Total		113,135,206
May 4 to December 31, 1904	243,472	
January 1 to December 31, 1905	1,799,227	
January 1 to December 31, 1906	4,948,497	
January 1 to December 31, 1907	15,765,290	
January 1 to December 31, 1908	37,116,735	
January 1 to December 31, 1909	35,096,166	
January 1 to July 31, 1910	18,165,819	

TOTALS BY DIVISIONS AND AMOUNT TO BE EXCAVATED.

DIVISIONS.	Amount excavated.		Remaining to be Excavated.	
Atlantic—				
Dry excavation	7,162,572	26,256,405	1,110,482	17,100,940
Dredges	19,093,833		15,990,458	
Central—				
Culebra Cut	50,448,876	60,135,459	33,737,848	36,989,559
All other points	9,686,583		3,251,711	
Pacific—				
Dry excavation	2,880,583	26,743,342	3,499,559	15,312,061
Dredges	23,862,759		11,812,502	
Grand totals		113,135,206		69,402,560

LOCK BUILDING.

Every Phase of the Work in Progress at Gatun and Pedro Miguel.

Every phase of lock-building can be seen from the hills above the lock sites at Gatun and Pedro Miguel, from excavation for the foundations to the placing of steel work in the concrete, the first representing the beginning, and the second, the completion of the work.

Excavation at Gatun is in progress in the northernmost or sea level lock, and is nearing completion. The bottom of the site before the concrete floor is laid will be at 45 feet below sea level and one of the steam shovels is making a cut at 40 feet below sea level, working entirely in rock. A shovel on the west side is digging into the bank outside the lock site so as to take out material that has slid into the cut, and to leave a bench on which future slides will be stopped. Across the lock site from this shovel another is making a similar cut outside the prism on the east side. A pocket of earth, loosened by a leak from a water main, slid down the bank against this shovel one day last week, and pushed it several feet towards the lock site. It is at work again, however, not having been damaged. Only a few hundred cubic yards of earth are included in the slide and this will be removed. A series of three benches or terraces will be made on the east side of the site for the lower locks in order that material moving toward the lock pit may be caught and kept out of the excavation.

The drainage for this steam shovel work, all of which is carried on below sea level, is causing no inconvenience, although the rains at Gatun have been unusually severe this season. Ditches carry the water to a sump at the extreme north end of the lock site, whence it is lifted out of the pit by two 12-inch centrifugal pumps, one of which easily handles the water under ordinary conditions. The bottom of this sump is being carried to 55 feet below sea level.

In the middle lock the placing of concrete in the floor on the east side has been finished, and on Sunday the railroad tracks that heretofore have rested on the earth of the lock site were moved over upon the concrete in order that the construction of the floor might be begun where the tracks formerly lay. For the present the construction of this part of the floor with concrete from the auxiliary mixers at the south end of the locks will continue, the material being hauled the full length of the upper lock and south forebay before being dumped. The hauling equipment for the narrow gage railroad from the auxiliary mixers to the lock site will be increased this month by two Porter locomotives, making the number in use eight.

It is in the upper or lake level locks and the south forebay that the placing of steel in the masonry for the emergency dam and the gates is in progress. All this work is only preparatory for the gates and the dam, but there is a large amount of it requiring great nicety in setting. A change which will add to the effectiveness of the concrete-making plant is in progress—the substitution of trolley drive for third rail on the automatic cars carrying materials from storage to the mixers. It does not involve any change in the method of locomotion, merely in that of delivering electric current to the motors. With the third rail system, the third rail being between the traction rails, a derailed car sometimes short-circuits one whole line, whereas with the trolley only one car will be affected. Some of the trolleys have been installed and others will gradually replace the third rail contact.

A railroad track has been put in along the west bank of the lock site and the amount of large stone that can be placed in the concrete will be limited only by the places to put it. Three hundred cubic yards a day can be furnished by means of this track. As the rock is loaded into the skips by locomotive cranes and delivered into the forms by the cableways, the size of each piece is not limited as heretofore, when only man-sized rock was handled. Some of the boulders contain as much as half a cubic yard.

The amount of concrete and large rock placed in Gatun Locks during the week ending August 6 is shown in the following statement:

	Cubic Yards.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
August 1	2,320	914	336	3,570
August 2	2,106	916	340	3,362
August 3	2,338	862	270	3,470
August 4	2,226	878	319	3,423
August 5	2,090	776	469	3,335
August 6	2,206	714	257½	3,177½
Totals	13,286	5,060	1,991½	20,337½
Previously reported				597,570
Grand total				617,907½

A total of 11,374 cubic yards of concrete and large rock was laid in the Pedro Miguel Locks, during the week ending August 6. The record for each of the six 8-hour working days follows:

Date.	Cubic Yards.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
August 1	1,724	154	25	1,903
August 2	1,878		25	1,903
August 3	1,540			1,540
August 4	2,106			2,106
August 5	1,882		40	1,922
August 6	1,990		10	2,000
Totals	11,120	154	100	11,374
Previously reported			2,154	210,321
Grand total			2,254	221,695

The concrete and large stone laid in the Miraflores Locks during the week ending August 6 amounted to 1,212 cubic yards, the record by days being as follows:

	Auxiliary Plant.			
	½-Cubic yard mixers	⅓-Cubic yard mixer	Large Stone	Total
August 1	122	43		165
August 2	225	33	20	278
August 3	190	39	15	244
August 4	169	23		192
August 5	152	35		187
August 6	99	47		146
Totals	957	220	35	1,212
Previously reported				5,143
Grand total				6,355

Horses for Police Service.

Eleven horses have been purchased in Jamaica for the Division of Police at an average cost of $115, delivered at Colon. A representative of the Department of Civil Administration was authorized to go to Jamaica and investigate the market, making purchases if he found good bargains. He went among the dealers and small farmers of Mandeville, Manchester, Williamsfield, and May Pen and thus was able to procure the best animals for the lowest prices. The horses were brought to Colon on the *Almirante*, which arrived on August 5, and are now in use, making 46 horses in all in the police service. The new horses are from 4 to 6 years old, 14 hands 2½ inches to 15 hands 1 inch high and weigh from 800 to 925 pounds. Horses of about equal grade brought to the Isthmus from the States have cost $160.

Ptomaine Poisoning at Gatun.

Seventy white laborers and four negro laborers, eating at European Laborers Mess No. 51 at Gatun, were seized with ptomaine poisoning on the night of August 5 and the morning of August 6, and were treated at the Gatun dispensary. Twenty-three of the men had mild symptoms and were sent back to quarters, 44 were sent to Colon Hospital, and 7 were treated further at Gatun. Samples of the food served at the mess on the night of August 5 were taken and sent to the laboratory at Ancon where they are being tested, so far with negative results. The investigation will be continued. Although the men blame the mess for their condition it is possible that the cause may be traced elsewhere, inasmuch as the results of the tests are so far negative. The first symptoms were severe, but the men recovered quickly.

Accidental Death at Gamboa.

Arthur G. Ridley, a white American, employed under the Central Division, fell from the concrete wall surrounding the machinery at the Gamboa pumping plant on August 3, and struck his head on the concrete floor of the pit. He died shortly afterwards from concussion of the brain, the skull having been broken at the base. He was born at Cumberland Mills, Me., and had lived on the Isthmus four years and two months, his last place of residence being Bas Obispo. A niece, Mildred J. Watson, living at No. 171 Pearl Street, Portland Me., survives him.

Quick Repair Job on the Culebra.

The suction dredge *Culebra* was laid up at the Balboa marine shops on Sunday morning, July 31, at 6 o'clock; its 20-inch pumps were dismantled, the old runners and liners were taken out and new ones fitted. At the expiration of 45 hours from the time it was tied up, the boat was again ready for service.

Missing Man.

Any one having knowledge concerning the whereabouts of William T. Harrington, who left San Francisco on the steamer *Pennsylvania* for Panama on March 19, 1910, is requested to communicate with his brother, F. J. Harrington, care of Atchison, Topeka & Santa Fe railroad, Monadnock Building, San Francisco, Cal.

Married.

LEYDECKER-WISE—At Bellaire, Ohio, on Thursday, July 7, 1910, Jessie P. Wise to Fred W. Leydecker. Canal Zone residence, Las Cascadas.

Launch Service to Taboga.

The steamer *Sanidad* leaves the dredge landing at Balboa at 9 o'clock Tuesday, Thursday and Saturday mornings. On the return trip it arrives at Balboa about 4.30 p. m. in time to make connections for the 5.30 train at Panama.

SOCIAL LIFE OF THE ZONE.

St. Luke's Church Organ Fund.

The proceeds of the cake sale and dance given under the auspices of the Woman's Guild of St. Luke's Church, Ancon, on Saturday evening, July 30, were about $75. This brings the organ fund up to very nearly the required amount. A company composed of members of the choir and congregation of St. Luke's is rehearsing a comedy, "The Private Secretary," which will be played Saturday evening, August 20. Through the courtesy of the President of the Republic of Panama, the entertainment will be given at the National Theatre. Those taking part in the play are: Mrs. Charles W. Boxer, Mrs. Stephen Canan, the Misses Margery Richardson and Jeanette Bryan, and Messrs. H. Ivins, M. T. Ransom, B. D. Willing, William Evans, and H. S. Wills.

The Gatun Christian League held an election of officers in the chapel on Saturday evening, August 6, the following being chosen for the ensuing year: President, E. C. Soule; vice-president, M. Windes; treasurer, Frederick Shortt; secretary, Wm. E. Wittridge. The League has a membership of 50.

The ladies of St. Mary's Star of the Sea Roman Catholic Church at East Balboa will hold a progressive euchre and dancing party at the home of Mrs. James, house No. 7, Old Balboa on Saturday evening, August 13. The proceeds will be devoted to the church building fund.

The turning of the first sod in excavating for the foundation of the Bethany Church of the United Methodist congregation at Pedro Miguel at 3 o'clock in the afternoon of Sunday, August 21, will be made the occasion of special ceremonies, the Rev. C. M. Anderson officiating.

A tennis club has been organized at Gatun with a membership limited to fifteen. Maj. J. P. Jervey is president, and Mr. Ruckert, secretary. A concrete court has been constructed near the residence of Maj. Chester Harding, and it has been covered with a coat of dark green paint to neutralize the bright light.

New Baptist Churches

The corner stone of a Baptist church building in the native village at Pedro Miguel will be laid on Sunday, August 13. The mission is under the National Baptist Church, and the pastor is a negro, the Rev. R. H. Thorbourne.

At New Frijoles, the corner stone of a Baptist church, under the Southern Baptist mission, will be laid on the same day by the Rev. S. H. Loveridge. Work on the building will proceed at once. The church will be a plain frame structure, 25 by 40 feet, with a seating capacity of 150, and will cost about $750.

A Kangaroo Clubhouse.

Cristobal Court, No. 8, Independent Order of Panamanian Kangaroos, has under way plans for the erection of a clubhouse in Colon. It is proposed to erect a substantial structure with up-to-date equipment, at a cost of $12,000. A stock company will be formed among the members of the order throughout the Canal Zone and the money will be raised by selling shares. The site for the clubhouse has not yet been determined.

The Independent Order of Kangaroos is a local secret organization and was established in October, 1906. Its primary purpose was social. The growth of the order was such that on November 8, 1907, it was organized under a charter of the State of Tennessee. The organization is divided into courts, located in different villages in the Canal Zone, the original or mother court being at Empire. The membership in the Canal Zone is approximately 2,000.

Reception by Mr. and Mrs. Thatcher.

Mr. M. H. Thatcher, Head of the Department of Civil Administration of the Canal Zone, and Mrs. Thatcher, at their home in Ancon, on the evening of Thursday, August 18, 1910, from 8 to 11 o'clock, will receive their friends. No formal invitations will be issued, but a cordial welcome will be given to all who may attend. For the convenience of those who may come from Colon and intermediate points, a special train, without charge for transportation, will be provided, leaving Panama at 11 o'clock and reaching Colon at 1 o'clock.

Donation to the Red Cross.

The chairman of the committee on arrangements of the dance held by the employes of the Pedro Miguel round house at the Paraiso lodge hall on Saturday evening, July 30, has forwarded the sum of $27.50 to the Canal Zone Chapter of the Red Cross, the net proceeds of the dance.

Baseball and Other Events.

A series of exhibition games of baseball is being played at Ancon park between the employes of the Department of Civil Administration and the doctors at Ancon Hospital. A small admission fee, which goes to the park improvement fund, is sometimes charged. Seven games have been played, resulting in the Civil Administration team winning 4, tieing 2, and losing 1. In the game on Wednesday, August 3, the score at the close stood 13 to 1 in favor of the Civil Administration players, and on Sunday, August 7, the doctors were again defeated 11 to 6. Tannehill and Hunter for the Civil Administration team, and Ross and Lawler for the doctors, were the batteries in Wednesday's game; and Tannehill and Hunter, and Ross and Frampton in Sunday's game. The series will be continued at the rate of two games a week, one on Wednesday afternoons at 5 o'clock, and one on Sunday mornings at 10 o'clock.

At the track meet to be held at the Empire baseball park on Labor Day, September 5, there will be running, jumping, weight-throwing and other contests. Entries are limited to Commission and Panama railroad employes, and the marines at Camp Elliott. All contestants must be bona fide members of the athletic organization for which they compete. The meet will begin at 9 a. m.

A sidewalk has been laid from the road to the Ancon baseball park, and the course raised and otherwise improved preparatory for the international bicycle race to be held there on Sunday, August 21. Other events scheduled to take place at this park include another Marathon race on September 4, and a motorcycle race on October 16.

A raised bicycle course has been laid out at the Empire baseball park. A number of bicycle races were announced for Sunday, July 31, but were postponed on account of rain.

A club has been formed among the West Indians of Empire to promote interest in bicycling, baseball, cricket, sprinting and other out-of-door sports. As soon as the members of the club have become sufficiently proficient, it is proposed to select a team to play other athletic teams on the Isthmus and also in the West Indies. V. A. Parham is the club manager. The Empire baseball park will be used for practice.

Commissary Bulletin.

The Commissary Department of the Panama Railroad Company is preparing to issue a monthly publication devoted to its interests. It will be called *Commissary Bulletin*, and will be of the same size as THE CANAL RECORD. It will appear on the first of each month, the August issue being delayed on account of a bargain sale to be held at the commissaries during the latter part of the month, a notice of which will appear therein. The paper will contain an official roster of the Subsistence and Commissary Departments, wholesale division, manufacturing plants and retail stores; a list of groceries, confectionery and tobaccos on sale at the commissaries, and, after the current number, such other information as may be of common interest to the department and purchasers. The paper will be printed at the Commission printing plant at Mount Hope.

O. I. C.

A regular meeting of the O. I. C. will be held in the I. C. C. lodge hall at Paraiso at 1.30 p. m. Sunday, August 14, 1910. All members are requested to be present. By order of the chief conductor,

F. H. ANDERSON,
Secretary and Treasurer.

Pedro Miguel, August 8, 1910.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Hotel Tivoli on Sunday, August 14, at 7.30 p. m. The program follows:

1	March—*Festal Day*	Roux
2	Selection—*A Trip to Japan*—By request	Klein
3	Waltz—*Alicia*	Bennett
4	Bolero—*A Fete in Madrid*	Abbiate
5	Medley—*Kerry Mills' Latest Songs*	Schulz
6	*Among the Lilies*	Frey
7	*a* *Lemons and Limes*	Salisbury
	b Margarita	Mills
8	Overture—*Schauspiel*	Bach
9	Valse Espagnol—*Doña Carmela*	Pirnay
10	March—*The Garde*	Boehnlein

CHARLES E. JENNINGS, *Musical Director.*

The next concert will be given at Cristobal, Wednesday, August 17.

Stages of the Chagres.

Maximum height of the Chagres River above mean sea level for the week ending midnight, Saturday, August 6, 1910.

DAY AND DATE	STATION.				
	Vigia	Albajuela	Gamboa.	Bohio.	Gatun Lake.
Height of low water above sea level—feet	125	92	46	0	0
Maximum hght. above mean sea level—feet					
Sun. July 31 . . .	130.2	96.2	52.5	20.3	18.0
Mon. August 1 .	129.3	96.0	51.2	18.9	18.1
Tues. August 2 .	127.8	94.5	48.4	18.3	18.0
Wed. August 3 .	127.6	94.4	48.2	17.8	17.6
Thurs. August 4	131.1	96.5	50.5	17.4	17.3
Fri. August 5 . . .	131.6	96.9	51.1	17.4	16.9
Sat. August 6 . .	129.1	95.9	51.1	17.5	16.8

The following vessels arrived at and departed from the port of Balboa during the week ending August 6:

Arrivals—August 1, *Arica*, from Guayaquil; August 2, *Peru* from San Francisco, and *Chiriqui*, from Buenaventura and Tumaco; August 3, *Aysen*, from south ports.

Departures—July 31, *Quillota*, to Callao and south ports; August 2, *Newport*, to San Francisco.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

The basketball game played on Saturday night, August 6, resulted in a score of 23 to 4 in favor of Culebra. The line-up of the two teams was as follows: Cristobal—Schwallenberg, Burrell, Jordan, Simka, Pring and Sims. Culebra—Cushing, Purchase, Vifquain, Koperski, Tupper, Baumer and Kramer.

The present standing of the bowling teams is as follows:

TENPINS.

Teams	Won	Lost	Per Cent.
Quartermaster's	2	0	1000
Lock and Dam	2	1	666
Miscellaneous	1	2	333
Chairman's Office	0	2	000

DUCKPINS

Teams	Won	Lost	Per Cent.
Miscellaneous	3	0	1000
Quartermaster's	2	1	666
Chairman's Office	1	2	333
Lock and Dam	0	3	000

An informal social was held by the Culebra association on Friday night, August 5. The program was given by local talent and was thoroughly enjoyed. It is planned to hold one of these functions once a month.

EMPIRE.

At the concert given by the Guatemalan quartet on Friday night, August 6, on their instrument, the marimumba, the following program was rendered:

1 March—The Minute Men.
2 Selections from Rigoletto.
3. March—The Sunset Gun.
4. Gertana.
5. Impersonations by Harry Guerard of the Marine Corps.
6. March—El Terare.
7. Merry Widow Waltz.
8. Impersonations by Mr. Guerard.
9. Two Step—The Great Divide.
10. March—Navajo.

The program was enjoyed by a large audience. The impersonations added greatly to the pleasure of the evening.

The debating society will have a mass meeting on Friday night of this week. The subject will be a petition in favor of "Accumulative Leave." All the members will be given an opportunity to take part either as temporary or permanent officers of the meeting, or as speakers in favor of or against the resolution. A minority report of the committee appointed to draw up the resolutions will be brought in. The meeting will give practice in all forms of parliamentary procedure.

The standing in the "ragtime" tournament has changed considerably during the last week and is now as follows: Huson-Potter, 1,215; Huson-Gorham, 1,098; Edwards-Potter, 1,092. The high score is held by Potter who rolled 244.

GORGONA.

The following men were appointed as a pool room committee by the executive council at its last meeting: C. J. Clapp, L. P. Robitoy, Walter Heltemes, Wm. H. Keenan and J. L. Chambers. A bowling committee was also appointed as follows: H. W. Otis, S. D. Roper, James Stewart, Geo. Stoehr and Fred King.

Among the new phonograph records purchased last week were three songs by Farrar and Caruso.

The Guatemalan quartet, playing the native instrument, the mariumba, will give a concert at the Gorgona clubhouse on Tuesday, August 16. This company has appeared at three of the other clubhouses and has been much appreciated.

The bowling match between the local team and the Empire team on Saturday night, August 6, resulted in Gorgona taking two out of three games. Following are the scores:

Empire				Gorgona			
Myers	188	154	128	Stoehr	176	211	170
Nicodemus	149	171	172	Varenkamp	163	145	166
Rodeghiera	123	135	....	Gaedke	189	147	130
Hanna			137	Stewart	124	139	114
Sawtelle	163	127	169	Roper	146	163	154
Gustavson	149	157	199				
Total	772	744	805	Total	798	805	734

GATUN.

The match pool game played on Wednesday night, August 3, resulted in DePoorter making 150 points to Dalton's 104.

At a meeting of the camera club held Tuesday night, August 2, plans were formulated for several new features. The club will meet every Tuesday evening during August.

CRISTOBAL.

On Wednesday night, August 3, the married men bowled the single men, the scores being as follows:

Single men	795	776	725
Married men	662	808	768

On Saturday night, August 6, a match game between the Gorgona and Cristobal bowling teams resulted in Cristobal winning two out of three games. The scores were as follows:

Gorgona	819	838	826
Cristobal	824	847	807

The meeting of the discussion club held on Tuesday night, August 4, was led by E. E. Lee of Culebra. A good number of men were present and took part in the discussion.

On Saturday night of this week the Empire and Cristobal basketball teams will meet on the Cristobal floor.

The athletic track is in fine condition, and jumping pits have been made. Regular coaching nights are Mondays and Thursdays. The track and standards can be used any night.

Supplies for Canal Work.

The following steamers with supplies for the Isthmian Canal Commission arrived at the ports of Cristobal and Colon during the week ending August 6, 1910:

Allianca, August 1, from New York, with 24 cases copper tubes, 13 cases hose for Atlantic Division;40 cases copper tubes for Pacific Division; 89 cases drugs for Sanitary Department; 235 kegs bolts, 294 cases bolts, 70 cases rivets, 81 cases linen, 10 pumps, 315 slabs zinc, 16 cases iron pans, 17 bundles paper, 23 bundles braces, 19 cases coupon books, 20 cases napkins, 180 car frogs, 65 cases wrenches, 125 kegs spikes for stock; and a miscellaneous cargo, the whole consisting of 1,933 packages, weighing 356 tons.

Sibiria, August 2, from New York, with 1,868 cases refined petroleum for stock.

Colon, August 4, from New York, with 6,150 barrels cement, 5 barrels copper wire, 18 bundles copper wire for Atlantic Division; 52 bundles castings, 792 pieces castings for Mechanical Division; 148 pieces iron pipe, 25 crates water coolers, 110 pieces railroad frogs, 350 bags plugs, 30 kegs spring cotters, 49 reels wire rope, 40 bags granulated corn, 14 bales cotton mops, 63 cases caustic soda, 31 barrels rosin, 200 cases soap for stock; and a miscellaneous cargo, the whole consisting of 8,348 packages, weighing 1,484 tons.

Turriolbo, August 4, from New Orleans, with 273 pieces yellow pine piling for Atlantic Division; 450 tons dump car parts for Cristobal shops (for erection); 43,583 feet yellow pine lumber, 262 pieces car stakes, 333 bundles timber carriers for stock.

Almirante, August 5, from New York, with 36 cases bolts and nuts for Atlantic Division; 30 cases bolts and nuts for Pacific Division; 28 kegs spikes, 44 bundles insulated copper wire, 15 cases rubber packing for stock.

Misdirected Letters.

ANCON, C. Z., August 10, 1910.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of addressee:

Alfaro, R. J.
Allen, John J.
Bard, George P.
Bartlett, Arthur P.
Belzil, Abe
Brown, R. H.
Browning, Miss Corinne
Carroll, Mrs. M. J.
Clark, John W.
Clarke, Mrs. E. B.
Craig, James G.
De Muth, Miss Selma
Drury, George F.
Flaherty, Michel
Francis, Euzekiel
Francesco, Murgio
Gordon, Mrs. Victor D.
Goodrich, Jesse
Hart, R. M.
Hobday, Mrs. Nina
Holmes, John
Jones, L.
Lozam, Jos. M.
Locke, W. M.
Maxon, Wm. E.
Mayer, Ira C.
McCormick, R. P.
McFarlin, Mr.
Morris, Mrs. C. L.
Needham, W. C.
Nill, Martin W.
Piggott, Mrs. Vivian
Proctor, Mrs. Baron
Rantzen, George
Rosater, John P.
Sands, Mrs. F. W.
Smith, H. K.
Tolbert, F. R.
Walling, W. E.
Ward, Mrs. L. E.
Whelan, Fenton
Zimmer, Jacob

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending August 17, 1910, (75th meridian time):

Date.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	A. M.	P. M.	P. M.
August 11		1.42	7.50	2.10	8.07
August 12		2.25	8.27	2.54	8.47
August 13		3.07	9.07	3.42	9.32
August 14		3.57	9.53	4.37	10.30
August 15		4.55	10.52	5.37	11.43
August 16		6.00	Noon 12.00	6.38	......
August 17	12.53	7.03	P. M. 1.06	7.35	......

Auction of a Building.

There will be sold at public auction by the District Quartermaster at Culebra, on the premises at 3 p. m., Thursday, August 11, 1910, to the highest bidder for cash, the following Isthmian Canal Commission property:

Building No. 313, at Enterprise.

This building will be removed from the premises, by the successful bidder, within 15 days from date of sale. The government reserves the right to accept or reject any or all bids. For further information apply to the District Quartermaster, Culebra, C. Z.

C. A. DEVOL, *Chief Quartermaster.*

Rainfall, July 1 to 31, 1910, Inclusive.

MIDNIGHT TO MIDNIGHT.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	Ins.		*Ins.*
Chorrera	5.30	6	14.42
Chepo	1.80	30	6.77
Ancon	2.19	10	9.26
Balboa	2.08	11	8.99
Miraflores	2.84	10	11.31
Pedro Miguel	2.27	10	8.95
Rio Grande	2.26	10	15.78
Central Section—			
Culebra	2.10	10	16.38
Camacho	2.48	11	16.17
Empire	1.60	10	12.60
Gamboa	3.21	3	17.00
Alhajuela	2.17	16	16.99
El Vigia	1.82	3	15.17
Gorgona	2.20	3–10	13.48
San Pablo	3.37	12	18.30
Tabernilla	2.73	10	15.44
Bohio	2.74	9	20.82
Trinidad	2.87	21	14.91
Monte Lirio	2.31	9	19.87
Atlantic Section—			
Gatun	3.44	9	19.04
Brazos Brook	3.05	9	22.01
Cristobal	3.56	10	21.07
Porto Bello			22.80
Nombre de Dios	1.91	26	17.10
Bocas del Toro	6.63	6	17.20

Rainfall, August 1 to 6, 1910, Inclusive.

MIDNIGHT TO MIDNIGHT.

Pacific Section—	*Ins.*		Ins.
Ancon	0.91	2	1.23
Balboa	1.38	2	1.83
Miraflores	0.56	1	1.12
Pedro Miguel	0.32	1	0.68
Rio Grande	0.29	2	0.63
Central Section—			
Culebra	0.19	2	0.48
Camacho	0.26	3	0.80
Empire	0.20	2	0.70
Gamboa	0.27	2	0.67
Alhajuela	0.19	2	0.49
El Vigia	0.22	6	0.69
Gorgona	0.19	4	0.29
San Pablo	0.15	5	0.33
Tabernilla	0.13	1	0.29
Bohio	0.28	1	0.75
Monte Lirio	2.23	1	3.90
Atlantic Section—			
Gatun	1.09	1	2.41
Brazos Brook	1.00	2	3.07
Cristobal	1.95	1	3.07

July Rainfall for Three Years.

STATION.	1908	1909	1910	Station Average	Years of Record	Rai'y days, 1910
Pacific Section—						
Ancon	6.83	9.01	9.26	8.18	14	25
Balboa	5.66	14.92	8.99	10.11	12	24
Miraflores	......	10.27	11.31	10.79	2	24
Pedro Miguel	9.53	9.19	8.95	9.22	3	27
Rio Grande	12.55	8.13	15.78	12.03	6	28
Central Section—						
Culebra	13.23	7.95	16.38	9.68	19	28
Camacho	12.83	8.68	16.17	11.93	4	29
Empire	11.79	8.27	12.60	10.24	6	30
Gamboa	11.43	11.59	17.00	10.42	30	29
Alhajuela	9.68	13.64	16.99	13.85	12	29
El Vigia	......	14.09	15.17	14.63	2	30
Gorgona	......	11.16	13.48	11.99	7	30
San Pablo	7.59	10.63	18.30	12.21	4	28
Tabernilla	7.84	10.78	15.44	13.91	3	30
Bohio	7.78	11.07	20.82	13.37	16	29
Trinidad	6.46	10.78	14.91	10.72	3	30
Monte Lirio	12.98	15.63	19.87	16.16	3	31
Atlantic Section—						
Gatun	13.67	11.46	19.04	13.68	5	31
Brazos Brook	18.25	12.23	22.01	17.45	5	29
Cristobal	14.76	12.83	21.07	16.50	40	28
Porto Bello	9.98	26.33	22.80	19.70	3	...
Nombre de D	......	16.94	17.10	17.02	2	29

OFFICIAL CIRCULARS.

Payment of Overtime.

CULEBRA, C. Z., August 4, 1910.

CIRCULAR No. 282-B:

Request for authority to pay overtime in excess of 75 hours during any one month should be submitted to this office in quadruplicate instead of in triplicate as stated in Circular No. 282-A.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Disposition of Surplus, Obsolete or Unserviceable Material.

CULEBRA, C. Z., August 3, 1910.

CIRCULAR No. 323-Revised:

Equipment, tools, and similar items carried in plant or equipment account by the various divisions and departments, and which become surplus, obsolete, or unserviceable, will be disposed of as follows:

1. Surplus articles not carried in plant account will be presented to the nearest storekeeper of the Quartermaster's Department, to be returned to stock. The articles must necessarily be in serviceable condition, and the transfer in such cases will be made with no reduction in price.

2. Surplus, obsolete, or unserviceable articles in plant account, the original invoice price of which was $500 or more, may be shipped to the Depot Quartermaster at Mount Hope, or such other point as the Quartermaster's Department may designate. In each case physical invoices and receipts will be exchanged with notation of price, but no financial credit will obtain.

The Depot Quartermaster will keep a record of all such articles of plant turned in, separately recorded by divisions and departments.

When sale is effected, net amounts received will be passed to the credit of the interested divisions and departments.

3. All other articles of plant or equipment not covered under the two previous heads, and which become surplus, obsolete, or unserviceable, will be placed on a survey report, Form 187-1-C. E., with distinctive notation after each article. The survey report will also include all articles in regard to the condition of which no agreement can be reached between the divisions and departments, and the Quartermaster's Department, under Article 1.

The survey report will be presented to the Surveying Officer, and after action by him, will be forwarded to the Chairman and Chief Engineer, through the Chief Quartermaster, who will note thereon his acceptance, or non-acceptance of the recommendations of the Surveying Officer in regard to the return of articles to stock.

This survey report, when approved by the Chairman and Chief Engineer, will in itself be a proper voucher, covering the transfer, and a sufficient number of copies will be furnished in each case.

This will not apply to articles recommended for return to store, which will be invoiced to the storekeeper designated.

All material enumerated herein, under the various headings, will ultimately be disposed of by the Quartermaster's Department, to the best interest of the Government, proceeds to be credited as follows:

(*a*) Direct credit for articles of plant valued at $500, or more.

(*b*) Indirect credit for other articles by prorating the amount realized.

The above procedure does not affect the Examiner of Accounts' circular No. 21, of November 20, 1909, in regard to direct transfers between departments and divisions.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Accounts for Construction and Repair of Buildings.

CULEBRA, C. Z., August 6, 1910.

CIRCULAR No. 340:

Effective July 1, 1910, instead of charging all expenses under classified expenditure accounts Nos. 408 and 409 as described thereunder for the construction, and alteration and repair of buildings, Department of Construction and Engineering, as a "General Item" and not prorating same to the cost of construction work, such portion of these expenses as seems to be a proper charge against Canal construction work, as being directly accessory thereto, will be charged to new account numbers 390 and 391, under "General Expenses," and be prorated to Canal construction work monthly the same as other "General Expenses." This will not involve any change in charges prior to July 1, 1910. Effective July 1, however, Accounts Nos. 408 and 409 will be charged only with such expenditures as the following:

1. Gold and silver quarters (including baths, water closets, and wash houses used in connection therewith.)

2. Clubhouses, lodge halls, churches and band stands.

3. Any other buildings constructed for such general purposes as would not make them properly chargeable against construction work.

Hereafter all buildings used as offices, shops, storehouses, corrals, etc., either French or American, which are not "Division Structures" and as such directly chargeable to construction accounts, the cost of construction, or alteration and repair of which is payable from appropriations of the Department of Construction and Engineering, will be charged to the new accounts under "General Expenses" Nos. 390 and 391, and will be prorated monthly to the three construction divisions, the Department of Civil Administration and the Department of Sanitation, in proportion to the benefits received. The net result of this change will be as follows:

(*a*) Accounts Nos. 117, 118, 206 and 207, for the construction and repair of buildings of the Department of Civil Administration and Sanitation, respectively, will remain unchanged.

(*b*) "Division Structures," *i. e.*, buildings necessary for the work of the three construction divisions will be charged, as heretofore, directly to the construction account numbers of the respective divisions under which they fall. "Division Structures" shall be interpreted to include all division office buildings, etc.

(*c*) The cost of commissary buildings will be charged to the Panama Railroad Commissary Department. The cost of alterations and improvements to hotels, messes and kitchens, (including the Hotel Tivoli) will be charged to Account No. 381.

(*d*) The cost of the construction, and alteration and repair of the following buildings (either French or American) of the Department of Construction and Engineering (including Quartermaster's, Examiner of Accounts' and Disbursing Departments) will be charged to new accounts Nos. 390 and 391, respectively, as "General Expenses" and be prorated monthly:

1. Office buildings (except division office buildings which should be charged as "Division Structures").

2. Shops (except such charges for shop buildings as are chargeable against "Division Structures" or absorbed in the monthly shop operations).

3. Storehouses (except such storehouses and storerooms as may be under the supervision of a construction division, which should be charged as "Division Structures").

4. Corrals.

5. Any other buildings which should be properly charged into construction work and which are not "Division Structures."

(*e*) Accounts Nos. 408 and 409 shall be respectively charged with the following expenditures only:

1. Construction, and alteration and repair of gold and silver quarters, including baths, water closets, and wash houses used in connection therewith.

2. Construction, and alteration and repair of clubhouses, lodge halls, churches and band stands, and any other buildings constructed or used for purposes of a general nature not directly connected with construction work.

3. The ordinary repairs to hotels, messes and kitchens (including the Hotel Tivoli) will be charged to Account No. 409 as heretofore.

The Examiner of Accounts will issue a circular covering these changes in the definitions of subaccounts under General Account No. 1.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Acting Chief Timekeeper, Department of Civil Administration.

ANCON, C. Z., August 6, 1910.

CIRCULAR No. 97:

Effective August 10, 1910, Mr William E. Dunning will assume the duties of Chief Timekeeper of the Department of Civil Administration during the abscence on leave of Mr. Fred A. Feld.

M. H. THATCHER,
Head of Department of Civil Administration.

AUCTION SALES.

Building at East Balboa.

CULEBRA, C. Z., August 3, 1910.

There will be sold at public auction by the District Quartermaster at Ancon, at his office, at 3 p. m., Saturday, August 13, 1910, to the highest bidder for cash, the following Isthmian Canal Commission property:

Old French building No. 117, at East Balboa.

This building will be removed from the premises by the successful bidder within sixty (60) days from date of sale. The government reserves the right to accept or reject any or all bids. For further information apply to the District Quartermaster, Ancon, C. Z.

C. A. DEVOL, *Chief Quartermaster.*

Buildings at Pedro Miguel.

CULEBRA, C. Z., August 3, 1910.

There will be sold at public auction, by the District Quartermaster at Pedro Miguel, on the premises, at 3 p. m., Saturday, August 13, 1910, to the highest bidder for cash, the following Isthmian Canal Commission property:

Buildings Nos. 4, 5 and 6, at Red Tank, Pedro Miguel.

These buildings will be removed from the premises by the successful bidder within sixty (60) days from date of sale. The government reserves the right to accept or reject any or all bids. For further information apply to District Quartermaster, Pedro Miguel, C. Z.

C. A. DEVOL, *Chief Quartermaster.*

Cold Storage Prices.

There are no changes in the prices of cold storage articles sold by the commissaries from those quoted in last week's issue of THE CANAL RECORD.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Advance	P. R. R.	Thursday	Aug. 4
Panama	P. R. R.	Thursday	Aug. 11
Allianca	P. R. R.	Wednesday	Aug. 17
Colon	P. R. R.	Tuesday	Aug. 23
Advance	P. R. R.	Monday	Aug. 29
Panama	P. R. R.	Monday	Aug. 29
Panama	P. R. R.	Saturday	Sept. 3
Allianca	P. R. R.	Saturday	Sept. 10
Colon	P. R. R.	Saturday	Sept. 17
Advance	P. R. R.	Friday	Sept. 23
Panama	P. R. R.	Thursday	Sept. 29
Allianca	P. R. R.	Wednesday	Oct. 5

CRISTOBAL TO NEW YORK.

Colon	P. R. R.	Wednesday	Aug. 10
Advance	P. R. R.	Tuesday	Aug. 16
Panama	P. R. R.	Tuesday	Aug. 23
Allianca	P. R. R.	Monday	Aug. 29
Colon	P. R. R.	Monday	Sept. 5
Advance	P. R. R.	Saturday	Sept. 10
Panama	P. R. R.	Friday	Sept. 16
Allianca	P. R. R.	Thursday	Sept. 22
Colon	P. R. R.	Thursday	Sept. 29
Advance	P. R. R.	Wednesday	Oct. 5

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible, leaving Cristobal on or about the 4th and 25th of each month. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

NEW YORK TO COLON.

Santa Marta	U. F. C.	Thursday	Aug. 4
Tagus	R.-M.	Saturday	Aug. 6
Metapan	U. F. C.	Thursday	Aug. 11
Prinz Joachim	H.-A.	Saturday	Aug. 13
Zacapa	U. F. C.	Thursday	Aug. 18
Oruba	R.-M.	Saturday	Aug. 20
Almirante	U. F. C.	Thursday	Aug. 25
Prinz Aug. Wilhelm	H.-A.	Saturday	Aug. 27
Santa Marta	U. F. C.	Thursday	Sept. 1
Magdalena	R.-M.	Saturday	Sept. 3
Metapan	U. F. C.	Thursday	Sept. 8
Zacapa	U. F. C.	Thursday	Sept. 15
Clyde	R.-M.	Saturday	Sept. 17
Atrato	R.-M.	Saturday	Oct. 1

COLON TO NEW YORK.

Oruba	R.-M.	Wednesday	Aug. 10
Almirante	U. F. C.	Friday	Aug. 12
Prinz Aug. Wilhelm	H.-A.	Tuesday	Aug. 16
Santa Marta	U. F. C.	Friday	Aug. 19
Magdalena	R.-M.	Wednesday	Aug. 24
Metapan	U. F. C.	Friday	Aug. 26
Prinz Joachim	H.-A.	Tuesday	Aug. 30
Zacapa	U. F. C.	Friday	Sept. 2
Clyde	R.-M.	Wednesday	Sept. 7
Almirante	U. F. C.	Friday	Sept. 9
Santa Marta	U. F. C.	Friday	Sept. 16
Atrato	R.-M.	Wednesday	Sept. 21
Tagus	R.-M.	Wednesday	Oct. 5

NEW ORLEANS TO COLON.

Abangarez	U. F. C.	Saturday	Aug. 6
Atenas	U. F. C.	Saturday	Aug. 13
Turrialba	U. F. C.	Saturday	Aug. 20
Abangarez	U. F. C.	Saturday	Aug. 27
Atenas	U. F. C.	Saturday	Sept. 3
Turrialba	U. F. C	Saturday	Sept. 10

COLON TO NEW ORLEANS.

Turrialba	U. F. C.	Thursday	Aug. 11
Abangarez	U. F. C.	Thursday	Aug. 18
Atenas	U. F. C.	Thursday	Aug. 25
Turrialba	U. F. C.	Thursday	Sept. 1
Abangarez	U. F. C.	Thursday	Sept. 8
Atenas	U. F. C.	Thursday	Sept. 15

COLON TO BARBADOS, CALLING AT TRINIDAD.

Tagus	R.-M.	Tuesday	Aug. 16
Oruba	R.-M.	Tuesday	Aug. 30

The next sailings of the Leyland Line will be as follows: *Mexican*, August 13, for Pensacola, via Kingston, Ja.; *Antillian*, for New Orleans, via Kingston, Ja.

Hamburg-American steamers leave for New York at 10 a. m., and for Port Limon every Tuesday or Wednesday.

Royal Mail steamers leave for New York on alternate Wednesdays at 10 a. m.; for Southampton on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans leave on Thursday at 3 p. m., and for New York on Friday at 10 a. m.

Sailings of the French Line (Cie Generale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

CANAL RECORD

Volume III. ANCON, CANAL ZONE, WEDNESDAY, AUGUST 17, 1910. No. 51.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is issued free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Colon Breakwaters Begun.

Work was begun on the first trestle for the Colon harbor breakwaters at the Atlantic entrance to the Canal on August 8. At present a regular track pile driver is driving the piles, but in the course of a few weeks a steam piston driver, purchased in the States for this work, will be on the Isthmus. The new driver is built to drive piles not only on the line on which it runs, but also for tracks running parallel to the operating track. The trestle now under construction will extend from Toro Point 11,000 feet to the entrance of the Canal, and the breakwater will be built by dumping rock from dump cars run out on this trestle. The track from the trestle to the quarry at Toro Point has been completed and the work of quarrying rock is under way. A small steam shovel, a small locomotive, and some 10-yard dump cars are in use taking out the rock to ballast the railroad, and as soon as this work is finished large shovels and locomotives will begin hauling rock to the breakwater. A dynamite storage magazine to be built of concrete has been authorized for the breakwater plant.

Effect of Salt Water on Concrete.

Experiments will be undertaken by the Atlantic and Pacific Divisions to determine the effect of sea water on the concrete for the lower locks at Gatun and Miraflores, in order, that it may be decided whether it will be advisable to take steps for protecting the concrete. To this end the division engineer of each division has been directed to have made six slabs about three feet square and not less than six inches thick of concrete, the same as that used in the lock masonry, the larger parts of the aggregate to be forked away from one face of the block leaving that face with a finish similar to that of the lock walls. Two of these slabs will be left untreated; two of them will be treated with sodium silicate in the form of soluble glass in solutions of different strength, and two of them will be treated by Sylvester's process with alum and soap, using three-quarters of a pound of soap to one gallon of water applied boiling hot for the first wash, and 24 hours later, a solution of alum, 2 ounces to the gallon, applied cold. One of each pair of slabs will be given a double coat, and the other, two double coats of the respective washes. After they have been treated in this way the slabs, together with those left untreated, will be exposed to the action of salt water at a point as near as possible to the location of the lower guide walls at Gatun and Miraflores. They will be placed in the water simultaneously and allowed to remain immersed until the walls are erected, and it becomes necessary to decide whether or not they are to be treated to resist salt water.

The walls that will be subject to action by salt water will be only those of the lower or sea level locks, and the guide walls leading into these locks. At Miraflores, about 1,400,000 square feet of surface will be thus exposed, and at Gatun about 1,270,000 square feet.

Dredge Contract Awarded.

A cable message has been received announcing that the President has authorized award of the contract for building a new ladder dredge for the Pacific Division to William Simons & Company, Ltd., of Renfrew, Scotland. This company was the lowest of the three bidders, one of which was an American firm whose proposal was considered excessive. The dredge will cost $399,340 and is to be delivered at Balboa 365 days from the date the contract is signed, making the voyage from Scotland through the Strait of Magellan to the Pacific entrance of the Canal under its own steam.

Suction Dredge for Nombre de Dios.

Suction dredge *No. 4*, the 18-inch dredge recently completed at Cristobal marine shops, will be towed to Nombre de Dios this week, and set at work there with the sand excavating fleet, now made up of one clam-shell dredge and one 12-inch suction dredge. *No. 4* will probably remain at Nombre de Dios two months, and during most of that time it will be engaged in deepening the entrance to the sand pits, although it may also excavate sand for the lock work at Gatun. When the dredge has finished its work at Nombre de Dios, it will be towed back to Colon and set at work making the fill provided for in the municipal improvements already well advanced in that city.

Work at Gorgona Shops.

The anchors for fender chains to guard the lock gates will be made at Gorgona shops. They are frames of structural steel to be imbedded in the concrete of the lock walls, two anchors at each end of each chain, each single anchor to weigh about nine tons, and the total weight to be about 800 tons. The steel is brought from the States, cut, shaped and assembled at Gorgona ready for placing in the concrete. Having the anchors made at Gorgona will guarantee immediate delivery, and they are needed now because the lock work is advancing more rapidly than was anticipated. If they were built in the States there would be the usual delay in shipping them to the Isthmus, and because of the size of each anchor they would be shipped knocked down, and assembling the parts in the field would mean the driving of 500 rivets in each anchor.

Manufacturing for the present needs of the work has so increased that the force in the boiler shop will be enlarged by 21 first-class boilermakers during the present month. These men have been selected by the foreman of the boiler shop, who is now in the States on leave. At present there are 55 boilermakers in the shop, of whom 30 are first-class artisans.

Four bottom dump buckets of 2-yards capacity were made in three days for use of the Pacific Division in handling concrete for the locks. Four more of the same kind were finished last week. These buckets are made of oak with steel lining. Four steel buckets of the same pattern are now under construction.

The storage of bar iron in the yard south of the shops has been begun and the capacity of the boiler shop will be increased according as the iron now stored there is removed.

Contract Excavation Tests Quality of Laborers.

Excavation is almost completed under the contracts let on November 22, 1909, to Hebard & Alberts, comprising about 180,000 cubic yards of earth and rock in the channel through the Gatun Lake region, between Bohio and Barbacoas Bridge. The excavation was in three sections, one of 40,000 cubic yards at Barbacoas, 100,000 cubic yards at Buena Vista, and 40,000 cubic yards at Bohio. About 60,000 cubic yards of the total was rock, and the work was done at a flat price of 35 cents a cubic yard. Most of the material was dumped into the Chagres River and the French canal trench, and in general the hauls were short, although in one instance it was necessary to push the cars 540 feet from the point of excavation to the river. The work was done on the "task" system, that is, the laborers were paid according to the amount of material they excavated. The excavation would have been completed this week, but a slide in the hill at Buena Vista on August 12 added so much to the material to be taken out that the work will not be finished until the last week of August.

An opportunity was afforded to test the value of the various classes of laborers on the Isthmus on the elemental basis of pick and shovel work. The force numbered from 100 to 500 men. All kinds of laborers were employed. White Spaniards and Italians rerecruited in Colon—voluntary immigrants anxious for work—were taken up to Bohio, and they could earn just about enough from day-

NOTES OF PROGRESS.

(Continued.)

break to sunset to keep them alive. They were willing and intelligent, but weak and slow. Native Panamanians, men of the class that excelled on the clearing recently completed by contract, did not find the work profitable. Negroes from the British West Indies worked in teams and did well enough, but they could earn very little more than the 10 cents gold an hour that the Commission pays on regular work. French negroes, those from Hayti and Martinique, excelled all others. They also worked in teams, some loading while others dumped the cars, and they made $1.50 gold a day in six hours of actual work, day after day. They are well nourished, work as rapidly as the English negro, and keep up their speed all day. They are also reliable, returning to work every day and keeping at it regardless of the rain.

Dredging at Grade in Atlantic Entrance.

Ladder dredge *No. 6* is excavating to the final grade of the Canal at the Atlantic entrance, 41 feet below mean sea level. It began last week at a point 3½ miles from the beginning of the Canal and is working out towards the 41-foot contour in Limon Bay. It is preceded by the drill barge *Terrier*, which makes holes in the rock for subaqueous blasting. The only other dredges of the Atlantic fleet that can dig to so great a depth as 41 feet are the suction dredge *Caribbean*, which cannot excavate rock, and the dipper dredge *Chagres*. Dredge *No. 6* was remodeled in January, 1910 to prepare it for this deep digging.

The *Chagres* and ladder dredge *No. 1* are at work in the Canal at the junction with the French canal, the dipper dredge *Mindi* is digging in the entrance to the Canal, and ladder dredge *No. 5* is in drydock at Mount Hope.

Culebra Cut Transportation Tracks.

The older of the two bridges across the channel of the Obispo River at Bas Obispo, over which run the spoil trains of Culebra Cut, became so unsafe last week that a new trestle was necessary. This is 200 feet long and will be completed by August 19.

The slide on the west bank of Culebra Cut, south of Whitehouse, which has made the Whitehouse incline unsafe for trains for several months past, is still active although over 600 cars of rock have been dumped to give the incline stability. At present trains enter the north slope of the Cut from the main line of the Panama railroad by way of the inclines at Las Cascadas and Bas Obispo.

Building Improvements.

Plans have been prepared at the office of the Constructing Quartermaster for a fireproof building, 17 by 34 feet in size, to be erected in the Colon Hospital reservation near the medical storehouse, of which it will be an adjunct as a place for storing inflammable supplies. Several thousand gallons of alcohol and ether are kept in stock in the medical storehouse for issue to the various hospitals and dispensaries, along with other supplies, thus involving danger from fire. The removal of the combustible fluids to the new building, where they will be segregated and well protected in the event of a fire in the vicinity, will minimize the danger.

The quarters for gold and silver employes at Toro Point, built under contract by James A. Wilson, are nearly finished. Preparations are now under way for the construction of an engine house and machine shop 42 by 225 feet, and a combination storehouse and office 50 by 100 feet, which will be undertaken by the forces of the Constructing Quartermaster. The completion of these will terminate all of the building improvements at the breakwater camp contemplated in the original plans.

The upper story of the detention barrack at the Colon quarantine station, which was partly torn away in a windstorm a short time ago, has been repaired. Subsequent examination of the damage showed that the wind had practically lifted the upper story from the lower one, carried it over about eight feet and then deposited it again. This was evidenced by the roof plate between the two stories, consisting of two joists fastened together, having been torn apart, leaving the spikes as straight as when they were first driven, thus showing the strain on the structure to have been almost wholly upward.

New Crusher at Porto Bello.

The work of installing the large stone crusher at Porto Bello is about three-fourths completed, and it is expected that the new unit will be in operation next month. The requisition was made in November, 1909, and the crusher will therefore be installed within a year from the time its purchase was decided upon. It has a hopper diameter at the top of 20 feet and will take rock of any size that the steam shovels operating in the quarry can handle, thus doing away with much of the breaking of rock with dynamite that is now necessary.

A statement of the work done at Porto Bello crusher, by days, for the week ending August 13, follows:

DATE.	Hours worked.	Cubic Yards.
August 8	11:15	2,384
August 9	13:40	3,177
August 10	12:05	3,151
August 11	10:23	2,901
August 12	10:08	2,633
August 13	9:18	2,114
Total	66:49	16,360

Concrete Barges.

The last of the three barges built of concrete for use in connection with Pacific Division hydraulic operations in the Canal prism, below the lower locks at Miraflores, was finished and launched on August 8. The first barge was launched on April 20, and the second on June 18. The last two barges are of lighter construction than the first and draw less water. The work of mounting the pumps, motors and other equipment on two of the barges has been practically completed and they will be ready for service in a short time. The building of an additional barge out of concrete for general use in dredging operations in the Pacific entrance has been decided on, and the work will be done at the Balboa shipways.

Ancon Rock Crusher.

The output of the Ancon rock crusher for the week ending August 13—14,130 cubic yards—was the largest since operations were begun. The largest output for a day was that of August 8, when 3,330 cubic yards of crushed rock were produced in 8 hours and 35 minutes, an average of over 391 cubic yards for each crusher hour.

A dust screen has been ordered to sift out the dirt and finer particles of rock. It will be provided with a double mesh, one to allow rock of small size to fall onto the belt conveyor ahead if the larger pieces, and the other to screen from the crushed rock all dirt and rock chips up to one-fourth inch in size. The screenings will probably be placed in a storage pile and used when required for street and road improvement work.

A statement of the rock crushed, by days, at the quarry for the week ending August 13, follows:

DATE.	Hours worked.	Cubic Yards.
August 8	8:35	3,330
August 9	7:35	2,640
August 10	8:00	2,130
August 11	6:10	1,995
August 12	5:50	2,145
August 13	6:50	1,890
Total	42:00	13,130

Concrete in Gatun Spillway.

The following statement shows the amount of concrete placed in the spillway of Gatun Dam in the two weeks ending August 13, and the total to that date:

Date.	Cubic Yards.		
	Concrete	Large rock.	Total.
August 1	280	33	313
August 2	280	33	313
August 3	4	....	4
August 4	122	....	122
August 5	102	15	117
August 6	126	18	144
August 8	156	58	214
August 9	140	....	140
August 10	170	36	206
August 11	82	....	82
August 12	64	....	64
August 13	222	27	249
Total	1,748	220	1,968
Previously reported	....	....	87,212
Grand total	....	....	89,180

A Rainy Day Record.

It is not the torrential downpours of the rainy season that interferes most with the excavation, but the slow steady rains lasting all day. The heavy showers often compel a suspension of work for a few minutes, but the water runs off readily and the men quickly resume. The steady rains soak into the ground and accelerate the movement of the slides. On August 10, Culebra Cut experienced one of the soaking rains, and although the total fall for the day at Empire was only 1.82 inches, there was not a dry half-hour between 7 o'clock in the morning and quitting time in the evening. Notwithstanding this, the excavation for that day amounted to 55,445 cubic yards with 43 shovels at work, an average of 1,287 cubic yards per shovel in eight hours.

Steam Shovel Record on the Relocation.

On Friday, August 5, steam shovel No. 110, working on the relocation of the Panama railroad at Baldo Espino divide, between Frijoles and Caimito, excavated 2,780 cubic yards of earth, all of which was loaded in 10-yard Western dump cars. Steam Shovel Engineer C. P. McDowell and Cranesman K. M. Ashley were on the shovel at the time. They lost thirty minutes waiting for cars and thirty minutes switching.

CEMENT UNLOADERS.

One Constructed at Gorgona Shops is Undergoing a Test.

A cement unloader, designed by the mechanical engineers of the Commission and constructed at Gorgona shops, was tested on the *Cristobal*, while that ship was in port during the week of August 1-7. It worked satisfactorily, but a few changes suggested by the working conditions will be made before it is put into regular service.

The principle is that of an endless chain which lifts barrels from the hold of the ship and deposits them in the barge tied up alongside the ship. A structural iron truss 45 feet long rests on the deck of the ship with one end overhanging a hatch and the other projecting over the barge. The endless chain or barrel carrier operates through this truss, over sprockets at either end. The carrier consists of two roller chains operating parallel with one another and supporting chain loops so fixed with movable joints to the endless chains that the barrel is held securely from the time it leaves the hold until it is dumped into the barge. From the bottom of the hold to the bottom of the barge a barrel may be carried 125 feet. A motor erected on the truss drives the chain.

It was the original intention to suspend the truss on a mast in such way that the angle it makes with the ship's deck could be changed to compensate for the rise of the ship and fall of the barge as the barrels are taken out of one and loaded into the other. The tests show that the large range provided will be unnecessary, and the compensation will be made by hydraulic jacks resting on the deck and acting against the lower side of the truss, and by altering the chains by inserting or removing links. The capacity of the unloader is limited by the ability of the laborers in the barge to take away the barrels as they are deposited. Three hundred barrels an hour is an economical rate, although this may be doubled if the loading and unloading rates are increased.

The contractor to whom the contract for furnishing a complete set of barrel and bag unloaders was let in August, 1909, also made a test of an improved conveyor in the week of August 1-7. The conveyors first constructed by the contractor failed to work satisfactorily and a new conveyor on the plan of that constructed by the Commission has been built. It differs from that built at Gorgona shops in the method of carrying the barrels, using hooks instead of the chain loop. It unloaded 4,300 barrels on the test, but will have to be altered before it does its work satisfactorily.

High School at Gatun.

The Canal Zone high school will be situated at Gatun, according to plans that have been adopted providing for new construction for school purposes at Gatun, Empire and Ancon, at a cost of $14,963.88. A four-room, second story will be added to the present buildings at Gatun and Ancon at a cost of $4,053.90 for each building, and a four-room extension will be made to the building at Empire at a cost of $6,856.08. The plan for carrying on first-year high school work at Ancon is not changed by the removal of the high school from Cristobal to Gatun.

The decision to move the high school to Gatun was made in view of present conditions and those likely to arise in the near future. The addition to the present building at Gatun will cost less than a new building at Cristobal, which would be necessary under the plans for the high school, as published in THE CANAL RECORD of July 27. Children attending high school at Gatun will have a less distance to travel from points along the line of the Canal, because there are at present only 16 high school pupils in Cristobal-Colon, and 35 at Gatun and points south of that village, and will have 4½ hours for school work, whereas under the present train schedule, which is arranged to suit the needs of the Canal work, a high school in Cristobal could be in session only three hours. A special or shuttle train, will run between Cristobal-Colon and Gatun, so as to arrive at Gatun before 1 o'clock each afternoon, and leave there about 5 o'clock. Pupils from points south of Gatun, about 25 at present, will arrive at Gatun at 12.54 p. m., and leave there at 4.52 p. m., using the regular trains.

Train Wreck at Bohio.

Engine No. 657, pulling an extra freight on the south bound track of the Panama railroad, ran into another extra, drawn by engine No. 661, at a point about 1,000 feet north of the station at Bohio, at 6.25 p. m., Monday, August 15, resulting in the death of Conductor Elias C. Tinsley of the forward train, and serious injury to Ed. Mattis, the fireman on engine No. 657. The caboose and two box cars were entirely demolished, and the locomotive was severely damaged. the force of the collision throwing the latter around, so that its trucks rested squarely across both tracks. The road was blocked for several hours, and the passengers on train No. 8 from Panama were transferred to a special, which was run from Colon to the scene of the accidetn, reaching Colon on the return trip at 12.15 a. m.

The body of Conductor Tinsley, who was apparently almost instantly killed, was recovered from underneath the mass of wreckage and removed to Ancon Hospital. He was a widower, 47 years of age, and was born in Atlanta, Ga. He came to the Isthmus on July 26, 1906, from Forsyth, Ga., and was employed as a conductor by the Isthmian Canal Commission until April 19, 1909, when he was transferred to the Panama railroad. He was a member of the Elks, and of the order of Panamanian Kangaroos. His sister, Mrs. Hollie Lancaster, of Forsyth, Ga., survives him.

Mining Engineers to Inspect Canal.

The fall meeting of the American Institute of Mining Engineers will be held in the Canal Zone, and arrangements have been made to accommodate at the Hotel Tivoli the 125 members who are expected to attend. The delegation will arrive at Colon on the Hamburg-American steamer *Prinz August Wilhelm* on Tuesday, November 1, and leave for New York on November 8. On the day of their arrival it is proposed to show them the lock and dam work at Gatun, and then take them to their headquarters at Hotel Tivoli. On November 2, they will be taken through Culebra Cut. November 3 is the anniversary of the independence of Panama and, as no work will be done on the Canal on that day, the visitors will have an opportunity to attend the carnival in the city of Panama. On November 4, the works at Pedro Miguel and Miraflores will be visited, and on November 7, the relocation of the Panama railroad.

EXECUTIVE ORDER.

Limitation On Jurisdiction of Canal Zone Courts.

By virtue of the authority vested in me I hereby establish the following Order for the Canal Zone Government:

Section. 1 No civil action or special proceeding shall be brought or proceeded with in the courts of the Canal Zone, in any case in which both of the parties, plaintiff and defendant, are alien nonresidents of the Canal Zone, and the cause of action is one which arose without the territorial limits of the Canal Zone Government, and the party proceeded against has no property within said territorial limits, subject to the jurisdiction of the Canal Zone courts.

Neither shall any civil action or special proceeding be brought or proceeded with in the courts of the Canal Zone when both parties, plaintiff and defendant, though citizens of the United States, are found transiently within the limits of the Canal Zone Government, unless the cause of action is one arising within the said territorial limits, or the party proceeded against has property within the said limits, subject to the jurisdiction of the Canal Zone courts.

This Order shall not be construed to exclude from the jurisdiction of the Canal Zone courts cases between parties who have an official or business residence within the territorial limits of the Canal Zone Government, or who reside therein for the purpose of any occupation or employment, notwithstanding that they may not have acquired a permanent residence within said territorial limits.

Section 2. All laws, orders and decrees, or parts thereof, in conflict with this Order, are hereby repealed. WM. H. TAFT.

THE WHITE HOUSE,
July 28, 1910.
[No. 1231]

Fatal Accident at Dock No. 13.

Charles Bryan, a Panamanian, 22 years of age, living at Camp Bierd, Cristobal, and Walter Goodhall, a Jamaican, 35 years of age, who had resided on the Isthmus five years, making his home at Colon, the first named employed as foreman, and the latter as a switchman helper by the Panama Railroad Company, lost their lives in an accident at Dock No. 13 during the noon hour on Sunday, August 14. Switch engine No. 8 was engaged in moving some cars on the dock trestle, when the stakes on I. C. C. cars Nos. 263 and 264 broke, letting 5 of the 19 long piles, with which the cars were loaded, fall off. They struck the trestle piling causing the trestle to sag, knocked refrigerator car No. 7005 off the track into the water, and did some damage to P. R. R. car No. 6240. Bryan fell under one of the cars receiving injuries which caused his death, while Goodhall was carried into the water with the refrigerator car and was drowned. The car, which was badly damaged, was recovered from the channel later, with the aid of the crane boat *La Valley*.

Launch Service to Taboga.

The steamer *Sanidad* leaves the dredge lauding at Balboa at 9 o'clock Tuesday, Thursday and Saturday mornings. On the return trip it arrives at Balboa about 4.30 p. m. in time to make connections for the 5.30 train at Panama.

PACIFIC DIVISION LOCKS.

Progress of Concrete Laying and Excavation.

On August 2, the auxiliary mixer on the east bank of the Pedro Miguel Locks was shut down and since that time all the concrete placed has been produced by the construction plant mixers. The machinery in the auxiliary plant will not be removed at present as there will probably be times when it can be operated to advantage.

Arrangements are under way for the installation of two additional 2-cubic yard mixers, one at the south end of each trestle. These mixers will produce concrete for the construction of the lift wall and the continuation of the side and center walls to their point of termination near the power substation in the north forebay. At the start derricks will be employed in placing the concrete, but later a traveling tower will be erected. Before concrete work can proceed in this section, considerable material, mainly rock, will have to be removed. In the meantime the center wall construction will be advanced as far as the head wall, and it is proposed to lay a track through the center wall culvert over which trains can be run with the spoil from the forebay excavation.

Backfilling for the west side wall has been commenced with rock from Ancon quarry. As soon as this fill has reached a convenient height, it will furnish a place for dumping large rock for cyclopean concrete. The rock will be transported from Ancon quarry, dumped alongside the lock wall, and then loaded by hand into metal-lined wooden buckets of the drop bottom type which have been ordered from the Gorgona shops, in addition to those already supplied. These rock buckets will be handled by the chamber cranes in connection with the regular concrete operations.

A section of the center wall at the north end of the locks has been completed nearly to its final height and some progress has been made on the east side wall. Concrete is being placed at the upper end of the west wall, but further advance at the south end awaits the floor extension. Concrete for the floor work is placed by derrick.

A total of 11,336 cubic yards of concrete was placed in the locks during the week ending August 13, an average of 66 cubic yards per mixer hour, or 58 cubic yards per mixer hour, when the computation includes loss of time account of delays. It is expected that when the two additional 2-cubic yard mixers at Pedro Miguel, together with the two additional 2-cubic yard mixers at Miraflores are in service, the concrete output in the Pacific Division will approximate 3,400 cubic yards daily. For the past week the average daily output of all mixers was 2,109 cubic yards.

The record for each of the 8-hour working days of the week at the Pedro Miguel and Miraflores Locks, is as follows:

PEDRO MIGUEL.

Date	Concrete placed.	Large stone.	Hours worked.	No. of mixers	Total.
August 8..	1,762	10	26.00	4	1,772
August 9..	1,966	50	29.50	4	1,981
August 10.	1,828	......	26.00	4	1,828
August 11.	1,976	20	31.00	4	1,996
August 12.	1,936	15	30.67	4	1,951
August 13.	1,808	......	26.50	4	1,808
Total...	11,276	60	169.67	4	11,336
Previously reported.	....	2,254	....	......	221,695
Grand total ..		2,314			233,031

MIRAFLORES.

	Auxiliary Plant.			
	½-Cubic yard mixers	⅓-Cubic yard mixer	Large Stone	Total
....	....	....	*26	26
August 8......	137	26	17	180
August 9......	215	42	18	275
August 10.....	154	35	....	189
August 11.....	220	32	15	267
August 12.....	163	30	14	207
August 13.....	142	36	....	178
Totals......	1,031	201	90	1,322
Previously reported...	....	....	35	6,355
Grand total..	....	....	125	7,677

Building Gatun Locks.

A statement of the concrete placed in Gatun Locks during the week ending August 13, and of the total placed, follows:

	Cubic Yards.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
August 8......	2,090	790	269½	3,149½
August 9......	2,120	686	242½	3,048½
August 10.....	1,952	746	269	2,967
August 11.....	2,180	820	281	3,281
August 12.....	1,972	621	338	2,931
August 13.....	2,234	640	301	3,175
Totals......	12,548	4,303	1,701	18,552
Previously reported...	....	....	....	617,907½
Grand total..	....	....	....	636,459½

Increase in Money Order Business.

The money orders issued in the Canal Zone in July exceeded in value and number those issued in any previous July, as the following statement shows:

Year	Total value.	Payable in U. S.	Number issued.
1910..........	$443,164.44	$335,843.40	17,269
1909..........	417,378.10	306,131.63	15,434
1908..........	441,798.54	318,013.68	14,538

The money order business prior to 1908 was comparatively small, that for the fiscal year 1907 being about half that for the year 1908. The orders payable on the United States represent those destined for the United States, and also those sent to certain islands in the West Indies for which orders are drawn on the New York post-office. Orders for Martinique are sent direct, and they amounted to $546 in July.

WEATHER CONDITIONS, CANAL ZONE, JULY, 1910.

Stations.	Press're (reduc'd to mean of 24 hours.)	Temperature.					Mean relative humidity.	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches.	Station average.	Number of rainy days.	Total movement (in miles.)	Prevailing direction.	Max. velocity (in miles.)	Direction.	Date.
Cristobal....	29.861	77.6	86	17	70	17	92	21.07	16.50	28	5,052	S.E.	29	S.	10
Culebra	29.856	77.4	89	1	67	17	94	16.38	9.68	28	3,807	N.W.	39	N.	20
Ancon................	29.850	78.3	91	28	67	17	91	9.26	8.18	25	4,761	N.W.	23	S.E.	10

Pistol Championship Matches.

During the week of September 18 to 25 the State and National revolver and pistol championships will be held throughout the United States and the Canal Zone under the auspices and rules of the United States Revolver Association.

The Canal Zone championship matches will be held on the range of the Culebra Pistol Club and will consist of Match A, 50 shots at 50 yards with any revolver, and Match B, 50 shots at 50 yards with any pistol, and will be open to residents of the Canal Zone only.

In addition to these matches, Match P for the championship of Panama will be open to any resident of the Canal Zone or Republic of Panama, and will be shot under the same rules as Match A. Gold, silver and bronze medals, emblematic of the championship will be given for first, second, and third places in each of the three matches.

A Panama hardware company has offered as a prize, a Colt, caliber 38, New Army revolver, which will be given to the winner of Match P, in addition to the championship gold medal.

Entrance fees for each match will be $3 gold. Entries for Matches A and B must be made not later than August 15, and for Match P not later than September 1.

Those desiring to enter these matches may send their application, accompanied by entry fees, to L. D. Cornish, Culebra, the official representative of the U. S. R. A., who will conduct the matches and will furnish any further information desired.

In a match shot synchronously on the Canal Zone and in the United States on July 17, the Culebra Pistol Club won from the National Capital Club of Washington by a score of 1166 to 1165, the individual scores of the Culebra club, out of a possible 300, being as follows:

L. D. Cornish..........	74	66	69	209
C. B. Larzelere.........	62	72	69	203
F. E. Sterns...........	60	69	67	196
F. A. Browne..........	63	60	70	193
T. E. L. Lipsey........	65	61	61	187
W. L. G. Perry.........	53	76	49	178
Total..........................				1,166

On August 7 in a match with the Smith and Wesson Club of Springfield, Mass., the Culebra club made the following scores:

L. D. Cornish..........	77	67	83	227
C. B. Larzelere.........	76	73	76	225
F. A. Browne..........	80	71	73	224
W. L. G. Perry.........	63	74	80	217
F. E. Sterns...........	66	70	64	200
T. E. L. Lipsey........	61	73	54	188
Total..........................				1,281

Missing Men.

Information is requested in regard to the whereabouts of John Dunn, one time chief engineer of the steamer *Three Friends*, and later in the Canal service until November 12, 1908. Address George Hunter, Colon.

Information is also requested in regard to James Marsh, formerly of Houston, Tex., and in the Canal service up to August 31, 1906. J. R. Smyth of Paraiso has an important letter for him.

Mr. Ramón Arias Feraud, Jr., has been appointed Minister Resident of Ecuador to Panama.

CHURCH WORK.

Wesleyan Methodist Mission.

An article giving the history of the Wesleyan Methodist Mission on the Isthmus from the beginning of the work in 1884 was published in THE CANAL RECORD of January 1, 1908. At present there are nine mission stations in the Canal Zone and the Republic of Panama, including one in the village of Cana, in the district of Darien, which is under the Panama mission, and is visited by the pastor in charge annually. The other missions are at Panama, Paraiso, Empire, Bohio, Frijoles, Lion Hill, Gatun and Colon. All are devoted to work among negroes. Statistics for the year ending December 31, 1909, are as follows: Number of ministers, 2; local preachers, 20; class teachers, 60; stewards, 14; mission stations, 9; membership, 900; Sunday school enrollment, 598; marriages, 122; baptisms, 161.

The most important work of the mission during the year was the dedication, on March 25, 1909, of a church in Panama. This is a structure of stone and cement, built in Gothic style. The auditorium measures 40 by 70 feet, and there is an extension behind for the choir and vestry. The roof was made in England. The cost of the building was approximately $2,000, and the local congregation was assisted by a grant of $1,000 from the missionary committee of the Wesleyan Church in London. The building occupies the site of the first church undertaken by the mission, which was begun in 1899. Work on this building was abandoned because of unsettled political conditions, and the corner stone, which had been laid, was taken up, inscribed anew, and relaid on January 1, 1908, by the British Minister, the Hon. C. C. Mallet, who 13 months later assisted at the dedication of the completed building.

A new church has been erected in the village of New Gatun, at a cost of $750, which was raised locally. Since the opening of this building, an organ has been purchased and, on Sunday, July 24, a bell was dedicated. The largest of the Wesleyan missions is at Empire. This has a membership of 167 and a Sunday school with an enrollment of 126. A new church building will shortly be erected for this congregation. The mission at Cartagenita, a labor camp near Paraiso, was established two years ago, when the building formerly used at Pedro Miguel was razed. The building at Lion Hill will soon be torn down, as the hamlet itself must be abandoned because of the encroachment of Gatun Lake.

Social features of the Wesleyan Methodist work are the Christian Endeavor and the Wesley Guild, an organization of young people for the cultivation of religion, literary study, Christian service and music.

Protestant Episcopal Missions.

The Protestant Episcopal Church began its work on the Isthmus in 1865, and missions under its jurisdiction or that of the Anglican Church, have been maintained ever since. An article on the Anglican work was published in THE CANAL RECORD of November 4, 1908, and on the Protestant Episcopal work, in the issue of May 26, 1909.

At present all the missions are under the Protestant Episcopal Church of the United States, and there are 25 mission stations, divided into two sections, 10 for American congregations and 15 for West Indians. The total number of communicants in both sections is 1,252. Other statistics covering the work from January, 1908, to January, 1910, are as follows: Baptisms, 250; confirmations, 112; marriages, 265; burials, 333. There are eight clergymen and 22 catechists and lay readers. The Sunday schools at the mission stations have a total enrollment of 350, and there are four parochial schools with a total enrollment of 300 pupils.

Undenominational.

Undenominational Christian work among the Americans in the Canal Zone is carried on by the Rev. Carl H. Elliott, Commission chaplain at Cristobal, and the Rev. A. A. Nellis, Commission chaplain at Culebra. The Cristobal Union Church has a membership of 176 and an average attendance at the Sunday evening preaching services of 70. In connection with this church there are a large Sunday school and a Ladies' Aid Society. Chaplain Elliott is also assigned to duty at Las Cascadas, Corozal, Porto Bello, and Gatun. The approximate average attendance at the Sunday schools maintained at these stations is as follows: Cristobal, 100; Las Cascadas, 35; Corozal, 35; Gatun, 60.

The Rev. Mr. Nellis arrived on the Isthmus in January, 1910, to take the undenominational work at Culebra, with duty at Empire and Paraiso. Mr. Nellis conducts the Bible class in the Sunday school at Culebra at 9.30 a. m., holds a preaching service at Empire at 11 a.m., and in Culebra at 7.45 p. m. A weekly prayer meeting is also held at Culebra on Thursday evenings at 7.30.

The Empire Christian League is an organization composed of men and women of all denominations for the purpose of maintaining Christian worship in the Commission chapel at Empire; of conducting a Sunday school and contributing to the social life of the village. Business meetings are held monthly, alternating with informal social meetings enlivened by musical and literary programs. These meetings have been attended by from 70 to 140 people. Morning services are held in the chapel every Sunday, and services are held Sunday evenings whenever the League is able to arrange for a preacher. The average attendance at the morning services is 40. During January, 1910, the services under the League were suspended, in order to allow the use of the chapel to the First Baptist Church of Empire for a series of revival meetings. Special services were held on the occasion of national holidays, and on Christmas and Easter. At the beginning of the fiscal year, 1909, the membership was 45. This decreased somewhat towards the end of 1909, and in January, 1910, a reorganization was effected by revision of the by-laws. The new constitution was signed by 40 persons and later this membership was increased to 100, which number has been maintained.

The Christian League at Culebra, one at Las Cascadas with a membership of 30, and one at Corozal with 25 members, all are organized along the lines of that at Empire.

No More Reservations on the Panama.

All available accommodations on the steamship *Panama*, scheduled to sail from Cristobal on August 23 having been reserved, no further requests for sailing will be issued.

C. A. MCILVAINE, *Chief Clerk.*

Culebra, C. Z.. August 11, 1910.

LOST—Between Empire and Culebra, August 11, one pigskin pocketbook, containing passes, papers, etc. Return to T. C. Atterbury, Chief Quartermasters' office.

SOCIAL LIFE OF THE ZONE.

Woman's Clubs and Other Events.

The Paraiso Woman's Club has received a gift of 45 juvenile books from Roland Hyslop of Paraiso. These books will be sold for the benefit of the club or circulated on payment of a deposit to cover loss or damage and a small weekly sum for the loan of each book. They are in charge of Mrs. H. W. Coutermarsh, secretary of the club, to whom all inquries regarding their sale or circulation may be addressed. The club has adopted blue and orange as its colors. There was a good attendance at the entertainment held in the lodge hall on Saturday evening, August 13. The hall was decorated with palms and the club colors. Cakes were sold at auction, games were provided and punch and cake were served. There will be one special session, after which the meetings will be suspended until the last Wednesday in September.

Ancon Dramatic Club.

Arrangements have been made for a special train from Empire for the benefit performance to be given by the Ancon Dramatic Club at the National Theatre, Panama, on Saturday evening, August 20, leaving Empire at 7.15 p. m.; Culebra, 7.22 p.m.; Paraiso, 7.30 p. m.; Pedro Miguel, 7.33 p. m., and Corozal, 7.50 p. m.

Returning, the train will leave Panama at 11.30 p. m. Tickets may be obtained at the clubhouses in Empire and Culebra; from the district quartermasters at Empire, Paraiso, Pedro Miguel and Corozal, and from the Tivoli Hotel and members of St. Luke's Church, Ancon. The price of tickets includes transportation on the special train.

The patronesses are: Mrs. H. F. Hodges, Mrs. Maurice Thatcher, Mrs. D. D. Galliard, Mrs. H. H. Rousseau, Mrs. J. B. Bishop, Mrs. Charles F. Mason, Mrs. C. A. Devol, Mrs. Henry B. Bryan, Mrs. J. Wesley Owen, Mrs. R. O. Marsh, and Mrs. B. F. Fearon. The President of the Republic of Panama and the cabinet officers will attend the performance.

The Rev. W. H. Weeks, chaplain of the New York City Hospital at Blackwell's Island, is a visitor on the Isthmus and will preach at St. Luke's Church, Ancon, on Sunday morning, August 21. The Woman's Altar Guild of St. Luke's will meet at the residence of Mrs. W. C. Gorgas on Tuesday afternoon, August 23, at 3.30 o'clock.

Canal Zone Humane Society.

At a preliminary meeting of the Canal Zone Humane Society held at Ancon Hall early in August, a committee was appointed to arrange for a general meeting. This committee was composed of Col. J. P. Fyffe, chairman; Mrs. J. D. Williamson, Dr. A. J. Orenstein, and the president, Col. W. C. Gorgas, member ex-officio. The general meeting will be held at the Hotel Tivoli on Sunday afternoon, August 21, at 2.30 o'clock. It is proposed to decide upon the points regarding the government of the organization and the best method of administration. Officers for the ensuing year will be elected.

President Mendoza of Panama and a party of twenty officials and friends started from Colon on August 12, for a trip along the San Blas coast, including stops at Porto Bello, Puerto Isabel, and Puerto Obaldía. A tug of the Atlantic Division has been assigned for the trip.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

Following is the standing of the teams in the local bowling tournament.:

TENPINS.

Teams	Won	Lost	Per cent.
Quartermaster's	2	0	1000
Lock and Dam	4	2	666
Miscellaneous	1	2	333
Chairman's Office	1	4	200
DUCKPINS			
Miscellaneous	3	0	1000
Quartermaster's	2	1	666
Lock and Dam	3	3	500
Chairman's Office	1	5	166

Men interested in the Isthmian bowling league should get in practice, so arranging matters that they can spend all their extra time bowling.

Anyone desiring to take part in the field meet at Empire on Labor Day, who has not left his name at the desk, is requested to do so at once.

The concert on Wednesday evening, August 10, by the Guatemalan quartet, was enjoyed by a large audience. Besides the program by the quartet, there were impersonations by Mr. Guerard of Camp Elliott.

A gymnasium class for men in the offices was started on Monday night, August 15. The class will meet every Monday and Wednesday afternoon from 5.15 to 5. 45. Every one is welcome.

EMPIRE.

The Empire bowling team defeated Gorgona in three games on Saturday night, August 13, the scores being as follows:

Gorgona				Empire			
King	130	147		Brown	151	157	187
Weigold	175	113	157	Potter	163	186	158
Jones	133	121	124	Shaugh'sy	208	150	137
Stewart	137	122	142	Goolsby	160	166	168
Otis	167	135	219	Gustavson	157	185	166
Stoehr			134				
Total	742	638	776	Total	839	844	816

There was a good attendance at the mass meeting held by the literary and debating society on Friday evening, August 12. After a spirited discussion the meeting adopted the minority report of the committee appointed to draw up the resolution regarding "Accumulative Leave."

A smoker will be held on Friday evening, August 19. There will be music by a double quartet, a sketch, sleight-of-hand performances, and other numbers by members of the Empire clubhouse.

The regular monthly tournaments in the pool room and bowling alleys started on Monday night, August 15.

GORGONA.

Gorgona won three games from the Culebra bowling team on Saturday evening, August 13. The scores were as follows:

Culebra				Gorgona			
Hall	142	144	131	Roper	172	173	172
Warner	176	160	207	Gaedkie	182	113	132
Fox	130	160	154	White	165	198	161
Mengel	132	128	157	Varenkamp	146	154	182
Harrington	149	191	131	Sexton	168	179	145
Total	729	783	780	Total	833	817	792

From 15 to 25 men are using the new running track from 2 to 5 times a week. Candidates are still coming in for the Labor Day field meet at Empire. Hand in your name at the desk and get an entry blank.

At the meeting of the physical department committee on August 11, a four-team local basketball tournament was arranged, composed of machinists, office men, boilermakers, and a miscellaneous team.

On Tuesday, August 23. Culebra will play Gorgona a match game of volleyball in the gymnasium. This sport bids fair to become popular on the Isthmus, as it is not too strenuous for this climate and furnishes a great amount of excitement for both players and spectators. Every one is cordially invited.

GATUN.

On Tuesday evening, August 9, a bowling match between Barte and Harrington vs. Durand and Severn resulted in the score of 1,020 for the former team and 927 for the latter.

The high scores in duck and tenpins from August 1 to 15 were made by Dalton, 123 in duckpins· Hodges, 225 in tenpins.

Seventeen men entered the handicap pool tournament which was started Monday, August 15.

The basketball game on Saturday, August 13, between two local teams, Nos. 1 and 2, resulted in a score of 44 to 9 in favor of team No. 2. The lineup was as follows: Team No. 1—Ourand, Porter, Eggleston, Slager, Phillips and Robinson. Team No. 2—Mitchell, Conner, Kevan, Wantland and Ottman.

CRISTOBAL.

The orchestra from the *Prinz August Wilhelm* gave a concert in the social room on Monday evening, August 8.

The Rev. A. A. Nellis of Culebra conducted the meeting of the discussion club on Thursday evening, August 11, his subject being: "What Shall We Read?" Those present entered into the discussion heartily. The program for the ensuing five months has been completed and may be seen at the clubhouse. All types of discussions are on the list.

Cristobal defeated Empire in a game of basketball on Saturday night, August 13, by the score of 24 to 14· The following men played: Empire—Bartholomew, Mullane, Smallwood, Eason, Seaton and McCullough. Cristobal—Sartor, Prather, Vifquain, Pring, Stratton, Simka and Schwallenberg.

On Saturday night, August 20, a preliminary track meet will be held on the Y. M. C. A. field as a try-out for the meet at Empire on Labor Day. Many men are working regularly for these meets.

The members' smoker, which was to be held last week but was postponed, will be held on Friday night, August 19. A good program has been arranged.

The high bowling score of the month up to August 14 is held by Mr. Collins with 211. Mr. Bullard, not competing for the prize, rolled 222, and 215 last week.

In the match between Gorgona and Cristobal on August 6, Mr. King of Gorgona made 220, 197, and 183 in the three games rolled, an average of 200.

PORTO BELLO.

The lunch stand was opened on August 5. This is a welcome feature, especially for the men who work on the night shift.

A boxing class was started on Friday night, August 12, with H. Westervelt as instructor. Mr. Westervelt, who is one of the councilmen, is expert with the gloves and the men are glad of this opportunity to take lessons. On Tuesday and Friday nights of each week, Mr. Westervelt will be on the boxing mat in the gymnasium ready to meet and instruct all comers.

A few of the boys are getting into shape for the Labor Day meet at Empire. Although the men feel the need of a suitable place for training, they hope to make a creditable showing in a few events.

GENERAL NOTES.

Three representatives from each Y. M. C. A. met at the Empire clubhouse on Saturday night, August 13, for the purpose of organizing the 1910 interassociation tenpin tournament. The following officers were elected: President, F. G. DeMoll; secretary and treasurer, Harry W. Otis; official scorer, Harry W. Sawtelle. It was decided to recommend that two teams be entered from each association, instead of one, as formerly. At a subsequent meeting to be called by the president, rules and a schedule will be adopted. The tournament will probably open on September 10.

Preparations for the Labor Day athletic meet are practically completed and judging by the interest shown by the contestants at each association, it will be the largest and most successful meet ever held on the Isthmus. Gold, silver and bronze medals have been ordered from New York, together with a trophy shield to go to the team securing the largest number of points. A special train will be run from Colon to Empire and return, and music will be furnished during the meet by the I. C. C. Band. The track, straight-away and jumping pits are in the best of condition. General admission tickets and box seats can be secured at any of the clubhouses.

STATISTICAL REPORT FOR JULY.

The statistical report for the month of July follows:

Total membership	1,712
Total number of bowling games	6,113
Number of different tournaments	8
Total number tournament players	139
Total number pool and billiard games	17,037
Total income from soda fountains	$2,702.19
Number different men using gymnasiums	522
Total attendance of men using gymnasiums	1,397
Number enrolled in chess and checker clubs	89
Number enrolled in glee clubs	34
Number enrolled in dramatic and minstrel clubs	61
Number enrolled in camera clubs	74
Number enrolled in orchestras	10
Number enrolled in Bible clubs	30
Number enrolled in educational classes	5
Number of members of libraries	725
Total number of books withdrawn	1,847
Number of religious meetings	2
Attendance	78
Number of lectures	1
Attendance	30
Number of imported entertainments	8
Attendance	1,414
Number of local entertainments	9
Attendance	1,974
Number functions outside association management	10
Attendance	980
Number afternoons for women	36
Attendance	274
Number evening functions to which women invited	19
Attendance	979
Number of different men on committees	157
Number of men called on in hospitals	58
Number of letters written at public tables	6,893
Total attendance at buildings	69,991
Average attendance per day	2,261
Number of beds used during the month	434
BOYS' DEPARTMENT.	
Number of members	73
Number of afternoons for boys	73
Average attendance per afternoon	48
Total attendance in systematic gymnasium work	501
Outings and other special features	2

Red Cross Finances.

The financial statement of Lieut.-Col. John L. Phillips, Treasurer, in account with Canal Zone Chapter, American National Red Cross, for the month of July, 1910, follows:

RECEIPTS.		
July 1, Balance on hand	$2,643.33	
July 12. Sale of tickets account of benefit performance at National Theatre, May 25	6.00	
July 18. Interest on money in bank to July 9	7.71	
July 18. Membership dues	8.00	
Total receipts		$2,665.04
DISBURSEMENTS.		
July 18. Remitted to Mr. Gustavus L. Munroe, Jr., for Cartago earthquake sufferers	$701.57	
July 18. Coach hire	.40	
Total disbursements		$701.97
July 31. Balance on hand		$1,963.07

JOHN L. PHILLIPS,
Treasurer.

Approved:
C. A. DEVOL,
Chairman.

Canal Zone Pythian.

The first issue of the *Canal Zone Pythian*, a monthly paper devoted to the interests of the Canal Zone lodges, Knights of Pythias, made its appearance on August 12. It is a 4-page publication of the same size as THE CANAL RECORD and contains notes of interest from the various lodges, editorials, financial statement, membership statistics, official communications, roster of past chancellors and a list of Canal Zone lodges and their officers. The office of the publication is at Las Cascadas, and the editor is A. M. Warner, who is the district deputy supreme chancellor of the order on the Isthmus.

Band Concerts.

The Isthmian Canal Commission Band will give a concert at Culebra, C. Z., on Sunday, August 21, 1910, at 5.45 p. m. The program follows:

1 March—*The Annihilator*................Clement
2 Selection—*The Prince of Pilsen*...........Luders
3 Intermezzo—*Flower Girl*................Wenrich
4 Overture—*Lustspeil*..................Keler Bela
5 March—*Ye Ancients*....................Reeves
6 Waltz—*Alicia*........................Bennett
7 Medley Selection—*Mills'* 1910............Schulz
Introducing "Lily of the Prairie," "I'd Like to be the Fellow That Girl is Waiting For," "Highland Mary," "Everybody's Happy When the Moon Shines," "You For Me When You're Sweet Sixteen," "Comical Eyes," "Sicilian Chimes," "My Friend Jim-a-da-Jeff," and "Margarita."
8 Concert Piece—*Among the Lilies*............Frey
9 Medley March—*Put On Your Old Gray Bonnet*..........................Wenrich

The Isthmian Canal Commission Band will give a concert at Cristobal, C. Z., on Wednesday, August 24, 1910, at 8.15 p. m. The program follows:

1 March—*Bay State Commandery*...........Burrell
2 Selection—*The Dollar Princess*—By request....Fall
3 Concert Piece—*Among the Lilies*...........Frey
4 Overture—*Schauspeil*......................Bach
5 Sextet from Lucia—By request.........Donizetti
6 Medley Selection—*Mills'* 1910............Schulz
7 March—*Ye Ancients*....................Reeves
8 Valse Espagnol—*Doña Carmela*...........Pirnay
9 Bolero—Isolina.........................Labory
10 March—*Put On Your Old Gray Bonnet*...Wenrich

Chas. E. Jennings, *Musical Director.*

The next concert will be give at Las Cascadas, August 28, at 6 p. m.

OFFICIAL CIRCULARS.

Transportation Committee.

CULEBRA, C. Z., August 8, 1910.

CIRCULAR No. 341:

A permanent transportation committee is hereby appointed, consisting of the following: Superintendent of Transportation, Central Division; Master of Transportation, Panama railroad; Trainmaster, Atlantic Division; Trainmaster, Pacific Division; Senior Traveling Engineer; Junior Traveling Engineer, with the view of keeping the Panama railroad and the different divisions of the Isthmian Canal Commission in close touch with each other on railroad transportation matters, and to promote efficiency and to secure cooperation.

The members of this committee will act as representatives of, and in accordance with such general instructions as they may receive from, respectively, the general superintendent of the Panama railroad, the division engineers, and this office. The committee will meet at such times and places as it may designate and will select its own chairman. It may invite others interested to attend any of its meetings.

The committee will consider and submit recommendations, subject to the approval of higher authority, on such matters as may properly come under its cognizance, including the prompt handling of trains and empty cars between divisions and between the I. C. C. and P. R. R.; the distribution of power and its transfer between divisions; the supplying of engine and train crews to meet temporary shortages; ascertaining responsibility for accidents and recommending discipline therefor in such specific cases as may be referred to it; and reporting on any other transportation matters that may be referred to it for recommendation by this office, the division engineers, or the general superintendent of the Panama railroad.

For such matters as, in the opinion of the committee, is desirable, a permanent record thereof shall be made and copies forwarded to this office, the division engineers, and the general superintendent of the Panama railroad.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission,
President, Panama Railroad Company.

Vacation Status of Employes Who Are Changed from Monthly to Hourly Basis.

CULEBRA, C. Z., August, 10, 1910.

CIRCULAR No. 297-A CORRECTED:

1. An employe who is an American citizen and not accustomed to a tropical climate, who is changed from the gold monthly roll to the gold hourly roll through no fault or volition of his own, may be granted not to exceed six weeks' leave of absence with pay, after completing ten months' service on the hourly roll, on the following basis:

LENGTH OF SERVICE ON MONTHLY ROLL	AMOUNT OF LEAVE WITH PAY
Less than 2 months	2 weeks.
2 months and less than 4 months	3 weeks.
4 months and less than 6 months	4 weeks.
6 months and less than 8 months	5 weeks.
8 months and less than 10 months	6 weeks.

2. If the employe has served 10 months and has a leave with pay due, paragraph 8 of circular 132-B reading as follows, will govern:

"Monthly employes who have leave due will not be changed to an hourly basis until such leave is granted, except with the employes' consent, in which case they will forfeit all accrued leave."

3. When changed to the hourly roll through the fault or volition of the employe, his service on the monthly roll will not entitle him to any leave with pay.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Shipments of Freight on Passenger Trains.

CULEBRA, C. Z., August, 11, 1910.

HEADS OF DEPARTMENTS AND DIVISIONS:

Please note the following bulletin No. 236 issued by the Master of Transportation of the Panama Railroad Company:

"All Agents and Conductors:

In order to expedite the construction work on the Canal, on presentation of advice from any foreman, superintendent of construction, or master mechanic, that shipments are 'rush', agents will accept for shipment on passenger trains, machinery or castings not to exceed 200 pounds in weight."

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Acting Collector of Revenues.

ANCON, C. Z. August, 15, 1910.

Sir:

I have the honor to recommend that Mr. Arthur McGown, Deputy Collector of Revenues, be designated Acting Collector of Revenues during my absence on vacation leave, effective August 19.

Respectfully,
TOM M. COOKE,
Collector of Revenues.

Mr. Maurice H. Thatcher,
Head of Department of Civil Administration,
Ancon, C. Z.

ANCON, C. Z. August 15, 1910.

Approved:
M. H. THATCHER,
Head of Department of Civil Administration.

Rules Governing Use of Commissary Books.

CRISTOBAL, C. Z., August 15, 1910.

CIRCULAR No. 120-A:

In accordance with the rules, commissary coupons are not good if detached. If detached coupons are presented in payment for merchandise, they will be taken up and forwarded to the Subsistence Officer by the Storekeeper with explanation. If detached coupons or coupon books are found wrongfully in the possession of the holder in violation of rules, they will be taken up by the Storekeeper and forwarded to the Subsistence Officer with explanation.

If coupons become accidentally detached while in the hands of the owner, they may be sent to the Subsistence Officer, together with cover of the book in which they belong, with letter of explanation and request for refund. Storekeepers will not take up coupons which may have become accidentally detached if the number on the coupon corresponds to the number on the book until all undetached coupons have been used up, when, if the owner desires, they will be taken up and forwarded with cover to this office with statement of facts and request for refund.

If errors are made in detachment of coupons in the store, the Storekeeper will issue change checks or refund to cover.

Coupon books and detached coupons taken up as above will not be cancelled by Storekeeper.

All other circulars or parts of circulars in conflict with above are hereby revoked.

EUGENE T. WILSON,
Subsistence Officer.

Approved:
GEO. W. GOETHALS,
Chairman and Chief Engineer.

Rules Governing Use of Hotel Books.

CRISTOBAL, C. Z., August 16, 1910.

CIRCULAR No. 136-B:

Hotel books must always be handed to clerk or steward on entering door who will tear out necessary coupons and return the book to the owner.

In accordance with the rules hotel coupons are not good if detached. If detached coupons are presented in payment for meals they shall be taken up and forwarded to this office by steward with explanation. If detached coupons or coupon books are found wrongfully in the possession of the holder in violation of rules, they will be taken up by steward and forwarded to this office with explanation. If coupons become accidentally detached while in the hands of the owner, they will be sent to this office, together with cover of book in which they belong, with letter of explanation and request for validation. Stewards will not take up coupons which may have become accidentally detached if number on coupon corresponds to number on book until all undetached coupons have been used up, when, if the owner desires, they will be taken up and forwarded with cover to this office with statement of facts and request for refund.

If errors are made in the detachment of coupons, the steward is authorized to correct same immediately.

Neither books nor coupons when taken up will be cancelled.

All other circulars or parts of circulars in conflict with above are hereby revoked.

EUGENE T. WILSON,
Subsistence Officer.

Approved:
GEO. W. GOETHALS,
Chairman and Chief Engineer.

Acting Manager of Commissaries.

CRISTOBAL, C. Z., August 10, 1910.

CIRCULAR No. 204:

During the absence on leave of Mr. John Burke, Manager, Panama railroad commissaries, the undersigned will perform his duties.

EUGENE T. WILSON, *Subsistence Officer.*

Order for Ice May Be Increased.

CRISTOBAL C. Z. August 16, 1910.

CIRCULAR No. 207:

To All Concerned: Restrictions as to the amount of ice which may be purchased by families requiring it for the preservation of food, are hereby removed. There are no objections to families increasing their ice orders to such amounts as they may desire.

It is expected that very shortly more ice may be supplied to gangs for use with drinking water. Due notification of this fact will be published.

EUGENE T. WILSON,
Subsistence Officer.

Rainfall, August 1 to 13, 1910, Inclusive.

MIDNIGHT TO MIDNIGHT.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.21	10	3.87
Balboa	1.38	2	3.92
Miraflores	1.76	10	6.45
Pedro Miguel	2.48	7	5.32
Rio Grande	2.11	7	4.09
Central Section—			
Culebra	1.59	10	4.96
Camacho	1.80	7	5.33
Empire	1.82	10	4.17
Gamboa	1.37	12	3.80
Alhajuela	1.85	12	4.47
El Vigia	1.35	9	5.34
Gorgona	1.65	12	2.71
San Pablo	3.87	12	4.73
Tabernilla	3.43	12	4.46
Bohio	2.63	12	5.62
Monte Lirio	2.23	1	7.26
Atlantic Section—			
Gatun	1.49	12	5.34
Brazos Brook	2.95	12	7.71
Cristobal	3.33	12	10.36
Porto Bello*	4.32	10	12.80
Nombre de Dios	1.76	10	4.83

*To 5 p. m. August 12.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending August 24, 1910, (75th meridian time):

Date.	High.	Low.	High.	Low.
	A. M.	A. M.	P. M.	P. M.
August 18	1.50	7.58	2.01	8.24
August 19	2.37	8.47	2.49	9.10
August 20	3.20	9.32	3.33	9.52
August 21	4.00	10.14	4.15	10.35
August 22	4.40	10.56	4.58	11.15
August 23	5.21	11.38	5.40	11.58
		P. M.		
August 24	6.01	12.20	6.20	......

Stages of the Chagres.

Maximum heights of the Chagres River for the week ending midnight, Saturday, August 13, 1910. All heights are in feet above mean sea level.

DAY AND DATE	STATION.				
	Vigia	Alhajuela	Gamboa.	Bohio.	Gatun Lake.
Sun. August 7	132.4	97.4	51.8	17.0	16.6
Mon. August 8	129.4	95.2	51.8	17.7	16.7
Tues. August 9	130.6	96.2	50.0	17.0	16.6
Wed. August 10	131.7	97.1	51.9	18.0	16.9
Thurs August 11	129.6	95.9	50.8	18.0	17.0
Fri. August 12	134.7	98.8	54.9	20.8	17.9
Sat. August 13	133.4	98.0	53.9	21.1	18.7
Height of low water	125.0	92.0	46.0		

Misdirected Letters.

ANCON, C. Z., August 17, 1910.

The following insufficiently addressed letters originating in the United Sates and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of addressee:

Adams, H. H.
Aginardo, Damaso
Alden Charles. E.
Brabery, T. J.
Brown, H. F.
Cameron, Miss Sadie
Clark, W. A. Graham
Dalampelas, Jean
Davis, N. H.
Dole, C. E.
Goldsmith, Mrs. Sarah
Hall, Mark
Hanna, John
Hatton, Mrs. Ed.
Healey, George
Hobday, Robert
Holmes, Geo.
Housel, W. H.
Jackson, Frank E.
Judd, F. H.
Lisell, John
Luttrell, Joseph T.
Lyons, Mrs. George
Mayhew, Henry
Owen, B. R.
Payne, J. O.
Rice, O. J.
Roche, Miss Pauline
Rosenthal, Sam
Shailer, Philip Raymond
Wood, S. W.

COMMISSARY DEPARTMENT.

The hours during which commissaries are open are as follows:

Cristobal and Culebra, 8 a. m. to 12.30 p. m.; 2 p. m. to 7 p. m.

All other commissaries, 8 a. m. to 1 p. m.; 3 p. m. to 7 p. m.

Retail prices of cold storage provisions for the week beginning August 13:

FRESH MEATS.

	Price.
Mutton—Stewing, per pound	7
Shoulder, neck trimmed off, (4 lbs. and over), per pound	10
Entire forequarters (not trimmed) 10 pounds and over, per pound	9
Legs, (8 to 10 pounds), per pound	19
Cutlets, per pound	20
Shortcut chops, per pound	22
Lamb—Stewing, per pound	7
Entire forequarters, neck trimmed off, per pound	10
Legs (5 to 8 pounds), per pound	24
Chops, per pound	26
Cutlets, per pound	26
Veal—Stewing, per pound	10
Shoulder for roasting (not under 4 pounds), per pound	15
Loin for roasting, per pound	19
Chops, per pound	22
Cutlets, per pound	26
Pork cuts, per pound	22
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	9
Corned, per pound	12, 14, 16
Chuck roast, per pound	13
Pot roast, per pound	15
Rib-roast, second cut (not under 3½ pounds), per pound	18
Rib-roast, first cut (not under 3 pounds), per pound	20
Sirloin roast, per pound	21
Rump roast, per pound	21
Porterhouse roast, per pound	21
Steak, Chuck, per pound	14
Round, per pound	15
Rib, per pound	20
Sirloin, per pound	21
Porterhouse, per pound	21
Rump, per pound	21
Tenderloin, per pound	24

MISCELLANEOUS.

Livers—Beef, per pound	10
Calf, each	60
Half, each	30
Sausage—Pork, per pound	17
Bologna, per pound	14
Frankfurter, per pound	14
Leberwurst, per pound	14
Sweet bread—Veal, per pound	1.20
Beef, per pound	25
Eggs, fresh, dozen	29
Cod, fresh, per pound	7
Bluefish, fresh, per pound	14
Halibut, fresh, per pound	20

POULTRY AND GAME.

Chickens—Fancy Roasting, large, each	1.50
medium, each	1.30
Fowls, each	70, 82, 93, 1.04, 1.15
Ducks, large, each	1.50
medium, each	1.30
Broilers, each	75
Turkeys, per pound	30
Squabs, each	35
Capons, each	2.50
Pheasants, each	70, 1.00
Partridges, each	50
Grouse, each	85

CURED AND PICKLED MEATS.

Ham—English York Cut, per pound	30
German, Westphalia, per pound	36
Sugar cured, per pound	24
Sugar cured, sliced, per pound	27
Half, for boiling, per pound	25
Boiled, per pound	32
Hocks, per pound	‡8
Bacon—Breakfast, whole piece, per pound	30
Breakfast, sliced, per pound	31
Beef, salt, family, per pound	12
Pork, salt, family, per pound	18
Ox tongues, each	80
Pigs' feet, per pound	10
tongues, per pound	16
Mutton, mess, per pound	7

DAIRY PRODUCTS.

Butter—Creamery special, per pound	40
Cheese—Roquefort, per pound	38
Philadelphia Cream, cake	10
Young America, per pound	22
Swiss, per pound	26
Edam, each	1.00
Neufchatel, each	6
Gouda, per pound	34
Parmesan, per pound	35
Milk, Briarcliff, bottle	**25
Buttermilk, bottle	**15

VEGETABLES AND FRUITS.

	Price.
Celery, per head	*6
Lettuce, per head	*5, 7, 10
Cucumbers, per pound	5
Potatoes, white, old, per pound	3
white, new, per pound	3
sweet, per pound	2½
Yams, per pound	3½
Onions, per pound	*3½
Tomatoes, per pound	8
Turnips, per pound	3
Carrots, per pound	4
Beets, per pound	*3
Cabbage, new, per pound	3½
Rhubarb, per pound	5
Squash, per pound	*4
Apples	08
Lemons, dozen	24
Plums, per pound	10
Watermelons, each	35
Canteloupes, each	08
Peaches, per pound	10
Huckleberries, per quart	20
Limes, per 100	80

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

‡Sold only from Commissaries; no orders taken for delivery.

Supplies for Canal Work.

The following steamers with supplies for the Isthmian Canal Commission arrived at the ports of Cristobal and Colon during the week ending August 13, 1910:

Keyingham, August 9, from Norfolk, with 212 cases electrical fuses for stock.

Advance, August 11, from New York, with 1 garbage incinerator for erection; 120 tons lock construction material for Atlantic and Pacific Divisions; 146 pieces maple lumber, 942 packages castings, 81 bundles castings, 550 pieces castings for Mechanical Division; 21 bundles cotton mops, 8 reels wire rope, 40 cases headlights, 88 cases caustic soda, 20 cases picks, 14 cases desks and parts and 11 bundles emery cloth for stock; and a miscellaneous cargo, the whole consisting of 2,287 packages, weighing 259 tons.

Abangarez, August 11, from New Orleans, with 189 pieces piling for Atlantic Division; 282 tons dump car parts for Cristobal shops (for erection); 8,638 feet oak lumber for Mechanical Division; 34 pieces castings for Central Division; 504 hewn pine ties, 330,202 feet yellow pine lumber, 9 cases electrical material for stock.

Santa Marta, August 12, from New York, with 425 coils manila rope, 48 cases files, 150 bundles plain wire for stock.

Ince Bank, August 13, from New York, with 17,300 barrels cement for Atlantic Division, and 54,800 bags cement for Pacific Division.

CONTRACT BUILDINGS.

Type 8-B Building at Culebra.

Sealed proposals, for labor (exclusive of plumbing and painting) only, will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., August 22, 1910, and then opened, for the erection by contract of a type 8-B building at Culebra. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $300 when the contract is signed.

C. A. DEVOL, *Chief Quartermaster.*

Type-8 C Building at Ancon.

Sealed proposals, for labor (exclusive of plumbing and painting) only, will be received at the office of the Constructing Quartermaster, Culebra, until 3 p. m., August 22, 1910, and then opened, for the erection by contract of a type 8-C building at Ancon. Plans and specifications can be obtained from the Constructing Quartermaster by making a deposit of $5. Fifty dollars must be deposited with the proposal and $300 when the contract is signed.

C. A. DEVOL, *Chief Quartermaster.*

Auction Sale of Building.

There will be sold at public auction by the District Quartermaster at Corozal, C. Z., on the premises, at 3 p.m., Thursday, August 18, 1910, to the highest bidder for cash, the following Isthmian Canal Commission property:

Building No. 35, at Corozal.

This building will be removed from the premises, by the successful bidder, within sixty (60) days from date of sale. The government reserves the right to accept or reject any or all bids. For further information apply to the District Quartermaster, Corozal, C. Z.

C. A. DEVOL, *Chief Quartermaster.*

The following vessels arrived at and departed from the port of Balboa during the week ending August 13:

Arrivals—August 7, *Chile*, from south ports; August 9, *San Jose*, from San Francisco, and *Oberon*, from Port Harford; August 10, *Ecuador*, from Guayaquil; August 11, Manavi from Buenaventura and Tumaco.

Departures—August 7, *Arica*, to Guayaquil; August 10, *Aysen*, to south ports, and *Chiriqui*, to Buenaventura and Tumaco; August 11, *Peru* to San Francisco; August 12, *Oberan*, to Port Harford.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Ancon	P. R. R.	Wednesday	Aug. 10
Panama	P. R. R.	Thursday	Aug. 11
Allianca	P. R. R.	Wednesday	Aug. 17
Colon	P. R. R.	Tuesday	Aug. 23
Advance	P. R. R.	Monday	Aug. 29
Panama	P. R. R.	Monday	Aug. 29
Panama	P. R. R.	Saturday	Sept. 3
Allianca	P. R. R.	Saturday	Sept. 10
Colon	P. R. R.	Saturday	Sept. 17
Advance	P. R. R.	Friday	Sept. 23
Panama	P. R. R.	Thursday	Sept. 29
Allianca	P. R. R.	Wednesday	Oct. 5
Colon	P. R. R.	Tuesday	Oct. 11
Advance	P. R. R.	Monday	Oct. 17

CRISTOBAL TO NEW YORK.

Panama	P. R. R.	Tuesday	Aug. 23
Allianca	P. R. R.	Monday	Aug. 29
Colon	P. R. R.	Monday	Sept. 5
Advance	P. R. R.	Saturday	Sept. 10
Panama	P. R. R.	Friday	Sept. 16
Allianca	P. R. R.	Thursday	Sept. 22
Colon	P. R. R.	Thursday	Sept. 29
Advance	P. R. R.	Wednesday	Oct. 5
Panama	P. R. R.	Tuesday	Oct. 11
Allianca	P. R. R.	Monday	Oct. 17

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible, leaving Cristobal on or about the 4th and 25th of each month. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

NEW YORK TO COLON.

Metapan	U. F. C.	Thursday	Aug. 11
Prinz Joachim	H.-A.	Saturday	Aug. 13
Zacapa	U. F. C.	Thursday	Aug. 18
Oruba	R.-M.	Saturday	Aug. 20
Almirante	U. F. C.	Thursday	Aug. 25
Prinz Aug. Wilhelm	H.-A.	Saturday	Aug. 27
Santa Marta	U. F. C.	Thursday	Sept. 1
Magdalena	R.-M.	Saturday	Sept. 3
Metapan	U. F. C.	Thursday	Sept. 8
Zacapa	U. F. C.	Thursday	Sept. 15
Clyde	R.-M.	Saturday	Sept. 17
Almirante	U. F. C.	Thursday	Sept. 22
Santa Marta	U. F. C.	Thursday	Sept. 29
Atrato	R.-M.	Saturday	Oct. 1

COLON TO NEW YORK.

Santa Marta	U. F. C.	Friday	Aug. 19
Magdalena	R.-M.	Wednesday	Aug. 24
Metapan	U. F. C.	Friday	Aug. 26
Prinz Joachim	H.-A.	Tuesday	Aug. 30
Zacapa	U. F. C.	Friday	Sept. 2
Clyde	R.-M.	Wednesday	Sept. 7
Almirante	U. F. C.	Friday	Sept. 9
Santa Marta	U. F. C.	Friday	Sept. 16
Atrato	R.-M.	Wednesday	Sept. 21
Metapan	U. F. C.	Friday	Sept. 23
Zacapa	U. F. C.	Friday	Sept. 30
Tagus	R.-M.	Wednesday	Oct. 5

NEW ORLEANS TO COLON.

Atenas	U. F. C.	Saturday	Aug. 13
Turrialba	U. F. C.	Saturday	Aug. 20
Abangarez	U. F. C.	Saturday	Aug. 27
Atenas	U. F. C.	Saturday	Sept. 3
Turrialba	U. F. C.	Saturday	Sept. 10
Abangarez	U. F. C.	Saturday	Sept. 17

COLON TO NEW ORLEANS.

Abangarez	U. F. C.	Thursday	Aug. 18
Atenas	U. F. C.	Thursday	Aug. 25
Turrialba	U. F. C.	Thursday	Sept. 1
Abangarez	U. F. C.	Thursday	Sept. 8
Atenas	U. F. C.	Thursday	Sept. 15
Turrialba	U. F. C.	Thursday	Sept. 22

COLON TO BARBADOS, CALLING AT TRINIDAD.

Oruba	R.-M.	Tuesday	Aug. 30
Magdalena	R.-M.	Monday	Sept. 13

The next sailing of the Leyland Line will be as follows: *Antillian*, August 21 for New Orleans, via Kingston, Ja.

Hamburg-American steamers leave for New York at 10 a. m., and for Port Limon every Tuesday or Wednesday.

Royal Mail steamers leave for New York on alternate Wednesdays at 10 a. m.; for Southampton on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans leave on Thursday at 3 p. m., and for New York on Friday at 10 a. m.

Sailings of the French Line (Cie Generale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

CANAL RECORD

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The Canal Record

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Address all Communications
THE CANAL RECORD
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Chairman's Monthly Report.

The report of the Chairman of the Isthmian Canal Commission for the month of July is published in full in other columns of this issue of THE CANAL RECORD. It gives a detailed account of the progress of Canal work in all departments and divisions.

Tug Miraflores Sails.

The *Miraflores*, a tugboat ordered several months ago for use in the Pacific entrance to the Canal, left Wilmington, Del., where it was built, on August 12. It will sail around South America under its own steam and is due to reach Balboa about October 15. Its completion was somewhat delayed, as it was originally expected at Balboa about September 1. The tug draws nearly 10 feet of water, is equipped with triple expansion engines and, in general, is of the same type as the tug *La Boca* now in service in the Pacific entrance.

Extending Zone Roads.

Road work was begun on Tuesday, August 23, to close the existing gap in the Canal Zone highway between Pedro Miguel and Paraiso. The section to be built extends from a point near the new depot at Pedro Miguel to the railroad station at Paraiso, a distance of about three-fourths of a mile, connecting there with the road already constructed into Paraiso village. For the greater part of the way it will be on the east side of the relocated Panama railroad, but will cross it twice. The wagon road formerly connecting the old part of Pedro Miguel with the new town through a gap left in the relocation embankment has been changed, so that the crossing is now further north and about on a level with the grade of the relocation. The section of the road to Paraiso was laid out and practically constructed several months ago, but a change in the relocated line, necessitated a change of route. It is proposed to abandon the present station at Paraiso as soon as passenger trains begin using the new line, and employes residing in Paraiso will be taken to and from the Pedro Miguel depot in a Commission brake. The road work will be performed by convicts from the Culebra penitentiary, about 117 in number, who are brought to the work each workday morning in a special coach attached to passenger train No. 3.

From Pedro Miguel, the highway will pass by the new town and parallel the relocation to a point in the vicinity of Miraflores tunnel, where it will curve a short distance to the east and pass to the other side of the hill through a cut already excavated. Near Pedro Miguel, the road grade will be about 65 feet above sea level; near the Caimitillo River, where a large culvert will have to be built and a 30-foot fill made, the grade will descend to about 60 feet; beyond this point to Miraflores tunnel, it will gradually rise again to 65 feet. From the cut at Miraflores, the road will ultimately be extended over the Miraflores dump, thence to Corozal, where it will connect with the Corozal-Panama highway. Considerable work has been done on the piece of road between Pedro Miguel and Miraflores.

New Depots on Relocated Line.

Temporary frame depots have been erected on the Panama railroad relocated line at Pedro Miguel and Miraflores. Each building is about 25 feet wide by 90 feet long, provided with an open waiting room at one end, and a freight and baggage room at the other, with a ticket office between. The new Pedro Miguel station is situated on the west side of the high line, a short distance north of the present depot, and the one at Miraflores is on the west side just back of the settlement. Gravel walks have been laid along the track at each point for the convenience of passengers in getting on and off trains.

Excavation Record in Chagres Section.

On Friday, August 19, six shovels of the 70-ton class working in the Chagres section of the Central Division, excavated 8,480 cubic yards of material during the working day of eight hours, an average of 1,413 cubic yards per shovel. During this period, the shovels were under steam 48 hours and were actually digging 35 hours and 45 minutes. The time lost in waiting for cars was 8 hours and 25 minutes, the remainder of the time being consumed in cleaning track and cleaning dippers.

Erecting Dump Cars.

One hundred of the 300 air-dump 19-yard steel cars under contract for use in the Canal construction work have been set up at the Panama railroad shops in Cristobal and turned over to the Atlantic Division. In addition, 93 of the 100 air-dump 12-yard steel cars ordered for use on the Panama railroad relocation have been erected and placed in service. All the parts for the remaining seven 12-yard cars have not yet been received. There are parts for approximately 50 more cars of the 19-yard type on hand, but about 30 per cent of these cannot be erected until other parts have been received. Most of the shipments have so far shown a surplus of some parts and a shortage of others.

The process of erection involves three operations on as many different days. A certain number of cars are assembled outside the shops ready for the riveters, and on the following day they are moved inside, where the riveting is done. On the third day they are moved outside again, where the doors are hung, and the cars trimmed up and tested ready for service. With this system from 10 to 12 cars can be made ready for use each day. The first shop work on the order for 400 cars was done on May 20.

Building Gatun Locks.

The first concrete laid in Gatun Locks by the cableway plant was placed on August 24, 1909, one year ago today. At the close of the work on August 20, 1910, there had been placed 655,083 cubic yards and there remained to be placed about 1,440,000 cubic yards. Most of the concrete so far placed is in the upper or lake level locks and in the approaches to them, although the construction of the floor in the middle locks is advancing, and preparations are in progress to begin building the walls.

Concrete laying in the upper or lake level locks at Gatun has reached the point where the face forms for the side and center walls can not be used much longer, because the walls are practically completed, excepting such parts at the gates as use more complicated forms. The face forms will therefore be moved to the second flight of locks next month where the floor is rapidly approaching completion. These forms operate on tracks laid on the lock floor, and the floor in the east lock of the second flight is ready for them. They will be lowered from the upper to the middle locks, a distance of 25 feet, on timber inclines. Each form with its supporting tower weighs about 4,400,000 pounds, and lowering it is therefore a careful although not difficult piece of work.

Preparatory to beginning the construction of the wall monoliths in the middle locks, the railways on which the towers change position are being extended northward, so that the cables may operate over the forms. The industrial railway is also being extended along the west side of the middle locks, and a similar extension is being made of the tracks on which the large rock for cyclopean concrete is carried under the cableways. The present track is to be paralleled, in order that backfilling may advance without interfering with the operation of the large rock trains.

Most of the concrete laying in the upper locks is now confined to the gate recesses and gate monoliths, where the amount of steel to be imbedded in the masonry makes the placing rather slow, and likewise makes it necessary to use the cableways in placing the steel.

Beginning August 22, a 9-hour day went

NOTES OF PROGRESS.

(*Continued.*)

into effect at the auxiliary mixers in the forebay, from which concrete is hauled in cars to the monoliths in the forebay and to the middle locks to be placed in the floor.

A statement of the amount of concrete placed in the locks at Gatun last week, and of the total to August 20, follows:

DATE.	Cubic Yards.			
	Construction plant.	Auxiliary plant.	Large stone.	Total.
August 15.....	1,954	712	318½	2,984½
August 16.....	2,114	760	330	3,204
August 17.....	1,794	844	293	2,931
August 18.....	1,810	838	203½	2,851½
August 19.....	2,228	906	355	3,489
August 20.....	1,996	874	294	3,164
Totals......	11,896	4,934	1,794	18,624
Previously reported...	....	....	....	636,459½
Grand total..	....	....	....	655,083½

Concrete Laying at Pedro Miguel and Miraflores.

A total of 12,426 cubic yards of concrete was laid in the locks at Pedro Miguel and Miraflores during the week ending August 20. The record for each of the 8-hour working days and the total laid to August 20 at each of the locks, follows:

PEDRO MIGUEL.

Date	Concrete placed.	Large stone.	Hours worked.	No. of mixers	Total.
August 15.	1,852	15	28.00	4	1,867
August 16.	1,920	24	30.00	4	1,944
August 17.	1,952	44	31.00	4	1,996
August 18.	1,558	52	23.50	4	1,610
August 19.	1,784	......	27.00	4	1,784
August 20.	1,764	18	29.00	4	1,782
Total...	10,830	153	168.50	4	10,983
Previously reported.	......	2,314	....	......	233,031
Grand total..		2,467			244,014

MIRAFLORES.

	AUXILIARY PLANT.			
	½-Cubic yard mixers	⅓-Cubic yard mixer	Large Stone	Total
August 15.....	174	43	10	227
August 16.....	196	34	15	245
August 17.....	198	41	18	257
August 18.....	205	51	15	271
August 19.....	179	41	2	222
August 20.....	158	43	20	221
Totals......	1,110	253	80	1,443
Previously reported...	....	....	125	7,677
Grand total..	....	....	205	9,120

A Spud for the Dredge Mindi.

One of the least important pieces of work now in progress at the Cristobal marine shops, is the construction of a spud for the dipper dredge *Mindi*, which works in the Atlantic entrance to the Canal. It is merely the binding together of four sticks of timber, each 20 inches square, into one stick 40 inches square, but the size of the spud shows under what a strain a dipper dredge works. The spud is 55 feet long, and is bound at one end by a pointed iron shoe and at the other by a ferrule and an iron cap in which a large pulley is mounted. It works in a well in the rear of the dipper dredge, the pulley forming part of the mechanism by which it is lifted, and the pointed shoe protecting the end which is forced into the bottom of the bay to hold the dredge in place. At the opposite end of the dredge is mounted the dipper. When the dipper is dropped into the material to be excavated and the pull on the stick begins, the only thing that keeps the whole dredge from being forced back, instead of lifting the material from the water, is the spud. All the pressure is on that one stick and there have been instances where this pressure was so great as to break it in two.

Anthropological Research in Connection With Canal Excavation.

Dr. Ales Hrdlicka, Curator of the Division of Anthropology, United States National Museum at Washington, is in the Canal Zone making research into anthropological phenomena in connection with the excavation for the Canal. The division engineers have been instructed to assist him in this work along the lines suggested in the following letter addressed by Dr. Hrdlicka to the Chairman and Chief Engineer:

There exist, undoubtedly, along the line of the Canal, a number of old and abandoned burial places of negro laborers, and it is possible that before the present excavations are completed, one or more such burial grounds will accidentally be opened. In such cases there will be found skeletal remains, particularly skulls, which if in fair state of preservation, would be of considerable value to science. I, therefore, beg to call your attention to this matter and to ask that if any such crania be discovered they be gathered for the United States National Museum, providing that the collecting will not interfere with the duties of your employes, and that it will exercise no adverse influence in any direction. In a case free from such objections the crania that are unbroken may be saved, packed in one or more suitable boxes and these be turned over to the Chief Quartermaster for transmittal to the United States National Museum.

Municipal Improvements.

The construction of the D street sewer at Colon has been completed from the beach road to Eighth street, and excavation for the trench extends one block further, to Ninth street. Excavation for the sewer outlet through the coral reefs to deep water in the bay is also in progress, a locomotive crane operating an orange-peel bucket being employed. The narrowness of D street, one side of which is wholly occupied by the construction track, makes the disposal of soft mud from the trench something of a problem. All of the excavated material has to be thrown to one side, and to prevent the mud encroaching on the pavement, a barrier of planking is erected as fast as the work advances.

The Colon beach road, which had become badly worn in places, is being given a layer of crushed rock.

A gravel sidewalk has been laid along Dibursing avenue, Empire, from the railroad station to the Disbursing Office, replacing the old board walk. The gravel is held in place at the sides by old iron rails resting on concret footings into which the flanges of the rails are imbedded, thereby holding them firmly in position.

Work on the new intercepting sewer designed to take care of the storm water draining from a section of Ancon Hill, and that part of Ancon lying along the Zone boundary road, which causes flooding of Central avenue, opposite Lyons street, during heavy rains, has been started. The first section to be undertaken is along the new street between Ancon boulevard and Central avenue.

A section of the road between the Hotel Tivoli and the Panama railroad station is being remetaled and rolled.

Rock Crushing at Porto Bello.

A statement of the work done at Porto Bello crusher, by days, for the week ending August 20, follows:

DATE.	Hours worked.	Cubic Yards.
August 15........................	12:12	2,840
August 16........................	12:48	2,990
August 17........................	8:40	2,900
August 18........................	8:17	2,090
August 19........................	8:50	2,665
August 20........................	8:30	2,608
Total........................	59:17	16,093

Ancon Quarry Operations.

A statement of rock crushed at Ancon quarry during the week ending August 20, 1910, follows:

DATE.	Hours worked.	Cubic Yards.
August 15........................	6:35	1,965
August 16........................	4:50	1,470
August 17........................	6:25	2,565
August 18........................	7:40	3,013
August 19........................	5:55	1,455
August 20........................	5:55	2,145
Total........................	37:20	12,613

Civil Service Examinations.

An examination for the position of stenographer and typewriter, Isthmian Canal service, will be held at Culebra, C. Z., on October 2, 1910. The necessary forms and other information regarding this examination can be secured upon application to the Secretary of the Isthmian Civil Service Board, Culebra.

An examination will be held at Culebra, about September 15, to secure eligibles from which to make certification to fill vacancies in the positions of Civil Engineer and Superintendent of Construction, at $1,500 per annum, in the Quartermaster's Department at large.

Applicants must show that they have had at least one year's experience in architectural construction and had supervision on the ground. In addition, a good scientific education and some practical experience in civil engineering are necessary. The duties include supervision of the erection of army post buildings (barracks, officers' quarters, storehouses, etc.) and laying out of grounds, construction of roads, sewers, etc., and, on sea coasts, wharves. Any American citizen over 20 years of age on the Isthmus who is desirous of entering this examination and can show that he has had the necessary experience is eligible.

Application for admission to this examination should be made at the earliest possible date to JOHN K. BAXTER,
Secretary, Isthmian Civil Service Board.

Culebra, C. Z., August 20, 1910.

Order of Isthmian Conductors.

A regular meeting of the O. I. C. will be held at Gatun lodge hall at 1.30 o'clock, Sunday afternoon, August 28.

F. H. ANDERSON,
Secretary and Treasurer.

Pedro Miguel, C. Z., August 22, 1910.

GATUN DAM.

Hydraulic Fill One-third Completed—Work on the Spillway.

The four 20-inch suction dredges at work on the hydraulic fill of Gatun Dam will be concentrated on the western section, and will continue to work there until the fill in that section has reached approximately the stage of the fill in the eastern half of the Dam, which is now at about 63 feet above sea level. The fill of the eastern section was begun on March 17, 1909, and of the western section on April 25, 1910. The total amount pumped into the Dam up to August 1 was 4,115,214 cubic yards, and the quantity remaining to be placed on that date was 7,538,008 cubic yards. Of the amount placed about 900,000 cubic yards are in the western section, and about 3,200,000 cubic yards in the eastern half of the Dam.

An idea of the average month's work of these dredges may be obtained from the following statement of fill made by them during the six months ending July 31:

Month.	Cubic Yards.				
	No. 82.	*No. 83.*	*No. 85.*	*No. 86.*	Total.
February	106,007	68,089	118,119	....	292,215
March	105,574	91,620	14,193	....	211,387
April	128,845	67,396	46,199	....	242,440
May	90,582	14,952	143,749	....	249,283
June	87,927	168,108	114,920	13,209	384,164
July	64,153	117,574	141,914	138,451	462,092
Totals	583,088	527,739	579,094	151,660	1,841,581

Dredge *No. 85* was in drydock for repairs from March 5 to April 22 and resumed work on April 25. Dredge *No. 83* was sent to drydock on April 16, and resumed work on May 27. *No. 86* began work on June 28.

Dredge *No. 86*, which arrived from the States in June, was run below its capacity during the first month in order that all the parts might adjust themselves under working conditions. Three of the four boilers have sufficed to keep the pump running at the rate deemed best until spare parts arrive from the States, after which the dredge will be worked to its full capacity. Notwithstanding that it has not been operating at full capacity it excavated 138,451 cubic yards during July, working in a sand bank formed in the old river channel immediately north of the Dam, and pumping into the eastern section. It is the only oil-burning dredge at Gatun. Oil is supplied by gravity from the storage tank on one of the hills near the lock site. A 5-inch main runs from the tank along the north toe of the Dam to the edge of the pond in which the dredge is operating, and from there a 3-inch lead, laid alongside the discharge pipe, with flexible joints between the pontoons, carries the oil to the dredge. The pipe line is being extended across the north toe of the Dam to the western section and, as soon as this line is completed, *No. 86* will be set at work pumping material from the old west diversion channel into the western section. In making this change the dredge will be towed from its present location north of the eastern section down the French and American canals, through Limon Bay to the mouth of the Chagres River, and thence up the river to the western section of the Dam. This trip will probably take only one night. As dredges of this class work all night and the crews sleep aboard, the deck on which the quarters are situated has been screened to guard against malaria mosquitoes.

Dredge *No. 82* has been undergoing repairs since July 15, but will be ready to resume work this week. It has been given a thorough overhauling. and fitted with new spud frame, new cutter, and new cutter engine. It will be towed in Gatun Lake over to the western section, and will assist in the fill from the south or lake side of the Dam. Dredge *No. 85*, which is at work on the fill of the western section from the south side, came out of drydock on April 22, after seven weeks of overhauling and repairs. Dredge *No. 83*, which is pumping into the western section from the north side, was also repaired in April and May, so that all of the dredges on the hydraulic fill should be in condition to do record work during the next six months.

The dry fill of the Dam amounted to 5,009,569 cubic yards on August 1. A track is under construction on Spillway Hill for the purpose of connecting the tracks on the north and south toes of the Dam, thus forming a complete belt with the main line of the Panama railroad, the second belt, line on the eastern section. When this track is completed spoil trains can be handled on a double belt, instead of a single one as at present, and as many trains can be dumped expeditiously as the Central Division is able to send from Culebra Cut. The excavation for this second belt line is also necessary for the east approach wall of the spillway, for the flume through which the water will run from the lake to the turbines of the hydroelectric plant, and for the foundations of the plant itself.

Concrete laying in the east approach wall advances along with the excavation, but only a small amount can be placed each day because of the narrow space in which the work is done. The amount placed daily in the week ending August 20, and the total in the spillway on that date are shown in the following table:

Date.	Cubic Yards.		
	Concrete	Large rock.	Total.
August 15	100	21	121
August 16	252	39	291
August 17	124	21	145
August 18	72	....	72
August 19	120	....	120
August 20	....	....	....
Total	668	81	749
Previously reported	....	....	89,180
Grand total	....	....	89,929

The laying of concrete in the west approach wall will soon be resumed, and with this end in view a narrow gage railroad is being run across the spillway bridge to the west section to connect the concrete mixing plant with the site of the west approach wall. This railroad will complete the system for laying concrete, not only in the approach walls, but also in three-fourths of the dam across the spillway.

Steam Shovel Work in Culebra District.

On August 12th, 17 shovels of the 200-class working in the Culebra construction district of the Central Division, excavated 28,249 cubic yards during the 8-hour working day, an average of 1,662 cubic yards per shovel for the day. The shovels were under steam 136 hours and were actually digging 105 hours and 35 minutes. The time lost waiting for cars amounted to 19 hours and 35 minutes, the remainder of the time being lost in mining, cleaning track, repairing shovels, moving back, etc.

PERSONAL.

Lieut.-Col. C. A. Devol sailed for San Francisco on the *Trinculo* from Balboa on August 21 for his annual leave of absence.

Mr. A. S. Zinn, Resident Engineer of the Central Division, sailed for New York on the *Panama* from Cristobal on August 23, on a leave of absence, during which he will visit Europe.

Mr. Edward Schildhauer, Electrical and Mechanical Engineer, sailed for New York on the *Abangarez* on August 18, on his annual leave.

Among the passengers on the *Ancon*, which arrived at Cristobal on August 18, were Dr. A. B. Herrick and Mrs. Herrick, and Henry Goldmark, designing engineer. Among the passengers on the *Panama* which arrived at Cristobal on August 17, were H. F. Tucker and Mrs. Tucker.

Porto Bello Clubhouse.

Since the opening of the Commission clubhouse in Porto Bello on April 7, 1910, the social activities of the village have increased. The clubhouse is open day and night, in order to accommodate the men on the work whose hours are divided into three shifts. During July, three entertainments were given, the English wizard touring the Zone clubhouses; the Gorgona minstrels, and the Camp Elliott Dramatic Club. The hour for the entertainments is placed at 10 o'clock, so that a larger number of men will be able to attend. The clubhouse is open to women on two days in the week and the refreshment parlor at all times. Women are also invited to all the entertainments. The present number of members is 137, being 75 per cent of the men in Porto Bello. The average number of visitors in the clubhouse daily, taken from a seven days' count, is 628. The number of letters written at the tables in the reading room during the month of July was 589. Mail boxes have been placed in the office. The building is too small to accommodate all the equipment of clubhouses in the Zone, but there is a gymnasium, and an ice cream and lunch stand. A barber shop has also been installed.

At a meeting of the Washington Reading Club held on Thursday, August 18, it was decided to request the Commission to have the clubrooms placed under the management of the Canal Zone Y. M. C. A.

The quarantine launch at Colon has been named the *Pratique.* Heretofore, it has been designated merely by the letter "Q" for "Quarantine."

CANAL WORK IN JULY.

Monthly Report of the Chairman to the Secretary of War.

CULEBRA, C. Z., August 15, 1910.

The Honorable the Secretary of War,
Washington, D. C.

Sir: I have the honor to submit the following report of operations on the Isthmus for the month of July, 1910:

Department of Construction and Engineering.

The following table summarizes the principal items of construction work accomplished by the Atlantic, Central and Pacific Divisions during the month:

Item.	Unit.	Atlantic.	Central.	Pacific.	Total.
Work excavation, dry	Cubic yards	95,503	1,319,916	17,290	1,432,769
Work excavation, wet	Cubic yards	423,092	....	515,782	938,874
Total work excavation	Cubic yards	518,595	1,319,916	533,072	2,371,583
Plant excavation, dry	Cubic yards	25,052	8,253	....	33,305
Plant excavation, wet	Cubic yards	1,400	....	....	1,400
Total plant excavation	Cubic yards	26,452	8,253	....	34,705
Total Canal excavation	Cubic yards	545,047	1,328,169	533,072	2,406,288
Material placed in dams	Cubic yards	649,805	....	4,290	654,095
Concrete laid	Cubic yards	86,517	....	45,136	131,653
Explosives used	Tons (Gross)	87.33	321.30	17.50	426.13
Rock drilling	Feet	45,677	383,963	47,402	477,042
Track removed	Miles	....	10.49	....	10.49
New tracks laid	Miles	4.23	14.94	2.75	21.92
Rock crushed	Cubic yards	62,996	402	43,815	107,213
Cement used	Barrels	82,100	27	46,614	128,741
New roads built	Miles	....	.28	....	.28
Water mains laid	Feet	13,102	543	671	14,316
Sewers laid	Feet	760	129	1,371	2,260
New drains and ditches dug	Feet	1,200	....	2,270	3,470
Average daily force	....	8,562	9,130	4,183	21,875
Average rainfall	Inches	20.05	16.29	11.24	15.65

Atlantic Division.

GATUN LOCKS.

Excavation—Shovel excavation during the month was carried on in the lower chamber only. The culvert excavation was 47 per cent completed.

Receiving and Issuing Material—The receipts of material during the month were satisfactory, although the consumption of rock exceeded the receipts by 897 cubic yards.

Mixing and Placing Plants—These plants were kept in satisfactory operation during the month.

Concrete Work—The concrete work for July showed a slight decrease as compared with the month of June, due in part to a less number of working days, and in part to the fact that there was a large amount of work in narrow forms at the south end of the upper lock. The bucket measurement exceeded the place measurement by 189 cubic yards. The amount of large stone placed was 6,531 cubic yards, an increase over June of 2,253½ cubic yards.

Power Plant—The operation of the power plant during the month was satisfactory. An additional number of small electrically driven pumps were received, and the steam pumps will all be replaced by electric pumps during August.

Iron and Steel Work—The setting of quoin posts and anchorages in the upper guard gates, in the operating gates, and in the intermediate gates of the upper lock was continued. Three pairs of balanced valves were also set during the month.

Backfill—Tracks for the backfill on both sides of the locks were completed during the month, and the backfilling commenced.

GATUN DAM.

Construction during the month increased the total fill by 649,805 cubic yards, making the total amount in place 9,123,784 cubic yards.

Hydraulic Fill—The dredges increased the hydraulic fill by 462,092 cubic yards, which made the total hydraulic fill in place at the close of the month 4,115,314 cubic yards.

Dry Fill—The material received from the Central Division, the Locks, the Spillway and the plant excavation, amounting to 187,713 cubic yards, was placed on the north and south toes of the Dam, making the total dry fill in place 5,009,569 cubic yards.

GATUN SPILLWAY.

Concrete—The construction of the east approach wall was continued, 2,516 cubic yards of concrete being placed, which increased the total to 86,611 cubic yards.

Excavation—Excavation during the month for the foundation of the east approach wall, amounting to 19,150 cubic yards, increased the total Spillway excavation to 1,445,482 cubic yards.

Cut-off Levee—Work was continued constructing the levee from Spillway Hill to Mindi Hill, and during the month 19,619 cubic yards of material were placed, making the total at the end of the month 145,621 cubic yards.

HARBOR AND CHANNEL SECTION.

Dredging from the Ocean to Mindi—Four dredges removed from the Canal prism 395,154 cubic yards of earth, and 27,938 cubic yards of rock. In addition, the dredge *Mindi* removed 1,400 cubic yards of earth from Shelter Cove. The dredge *Chagres* removed 3,341 cubic yards of earth from Pier No. 2, and 33,033 cubic yards of earth and 4,020 cubic yards of rock at Dock No. 11. On July 31st, 40 feet of water could be carried from zero to mile 1 plus 900 feet; 30 feet to mile 4 plus 4,700 feet; 20 feet to mile 5 plus 2,100 feet, the end of the cut.

PORTO BELLO.

At this point two 8-hour shifts were continued during the month. The maximum day's output was 3,743 cubic yards of crushed rock, and the total for the month 62,996 cubic yards. The average hourly output for 336 hours and 30 minutes was 172 cubic yards.

SAND, STONE AND CEMENT SERVICE.

In connection with this service, plant steamed about 9,073 miles, handled 682 barges, and carried about 3,214 passengers.

COLON BREAKWATERS

Survey work was continued, and a large amount of material unloaded.

NOMBRE DE DIOS.

During the month 45¼ barge loads, containing 25,026 cubic yards of sand, were shipped to Gatun.

MUNICIPAL ENGINEERING.

The usual work of maintenance of roads, waterworks and sewers, pumping stations, etc., was satisfactorily performed.

Central Division.

During the month of July, the total amount of material excavated in the Central Division was 1,328,169 cubic yards, of which 295,521 cubic yards were classified as earth, and 1,032,648 cubic yards as rock. Of this quantity, 1,318,873 cubic yards were removed by steam shovels, and 9,296 cubic yards by contract. Of the total, 1,319,916 cubic yards consisted of primary excavation for the Canal prism, and 8,253 cubic yards for tracks not useful to the completed Canal.

The daily average number of steam shovels at work during the month was 42.84, and the total number of shovel days was 1,071, as compared with 45.15 shovels at work during the month of June, with 1,174 shovel days.

For comparison with the work done by steam shovels during the corresponding month of the previous year, the following table has been prepared:

Period.	Excavated by shovels.	Classification of material		Av. No. of shovels at work.	W'kg days.	Av. yards per shovel day.
		Rock.	Earth.			
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*			*C. Y.*
1909: July	1,414,552	1,046,772	367,780	45.08	26	1,206.9
1910: July	1,318,873	1,027,669	291,204	42.84	25	1,231.4

Rainfall at Empire: 1909, 8.27 ins.; 1910, 12.69 ins.

The above table shows the average output per shovel day to be 2.3 per cent greater in July, 1910, than in the corresponding month of the previous year.

The total amount of material excavated from the prism in the Culebra section of the Central Division in July, 1910, was 1,153,810 cubic yards. This record has been exceeded but once in that section during the month of July, 1,195,173 cubic yards having been removed in July, 1909.

The latest estimate of the total quantity of material to be removed in the Central Division is 97,125,018 cubic yards, and up to August 1, 1910, 60,135,459 cubic yards had been removed, leaving 36,989,559 cubic yards to be removed in order to complete all excavation in the Central Division. From these figures it will be seen that 61.91 per cent of all excavation in the Central Division had been completed up to the close of the month of July, and 38.09 per cent remained unfinished.

Considering the two sections which compose the Central Division, the excavation completed at the close of July operations was as follows:

CULEBRA SECTION.	*Cubic Yards.*
Completed	50,471,680
To be completed	33,739,721
CHAGRES SECTION.	
Completed	9,663,779
To be completed	3,249,838

From the above figures it will be seen that the Culebra section, locally known as the

Culebra Cut, was 59.93 per cent completed, with 40.07 per cent to be completed; the Chagres section was 74.83 per cent completed, with 25.17 per cent to be completed.

During the month the following quantities of material were hauled from the Canal prism and dumped in the embankment for the new roadbed for the relocation of the Panama railroad: 13,628 cubic yards in the vicinity of Pedro Miguel; 15,289 cubic yards between Caimito and Gamboa. The total at the close of the month used for this purpose was 3,695,035 cubic yards. During the month 125,519 cubic yards of rock and earth from the Culebra Cut were transported to Gatun for use in the construction of the Dam, making the total at the close of the month for this purpose 1,684,197 cubic yards.

The daily average number of laborers at work on the whole division during the month was 8,246, the average number of "gold" men being 884.

Pacific Division.

DISTRICT NO. 1—LOCKS AND DAMS.

The total excavation during the month amounted to 17,290 cubic yards. During July no dry filling was added to the prism of the west dam at Pedro Miguel, leaving the total amount in place at the end of the month 260,852 cubic yards; 3,967 cubic yards of dry filling were placed in backfill, increasing the total to 13,583 cubic yards. At Miraflores, 4,290 cubic yards of dry filling were added to the toe; no hydraulic filling was added to the core of the west dam, making the totals at the close of the month 525,191 cubic yards and 138,587 cubic yards respectively. During the month 6,110 cubic yards of dry filling were placed in backfill, increasing the total to 127,190 cubic yards.

PEDRO MIGUEL HANDLING PLANT.

The operation of the entire handling plant, including the mixers on berm crane "G", and the two east chamber cranes, was commenced July 6, when the trestle to the east chamber was completed. The entire plant worked satisfactorily, and with but few minor delays during the month.

Concrete Work—The concrete work during the month on the Pedro Miguel lock amounted to 41,464 cubic yards; 1,843 cubic yards being placed in the head walls, 7,246 cubic yards in the east wall, 12,256 cubic yards in the west wall, 15,029 cubic yards in the center wall, and 5,090 cubic yards in the floors.

MIRAFLORES HANDLING PLANT.

At the Miraflores lock site operations with three small mixers were continued during the month, and the installation of two 2-cubic yard mixers near the north end of the east storage trestle was nearly completed. It is the purpose to handle the output from these mixers with the east berm crane, placing the concrete in the east wall of the upper lock. The erection of the west berm crane was about 80 per cent completed. The storage trestle on the east berm was 90 per cent completed, and the filling of the south end with sand and stone was begun. There was a small quantity of material stored at the south end of the west storage trestle.

Concrete Work—During the month 3,672 cubic yards of concrete were placed in the floor system of the upper lock at Miraflores.

The following table gives the output of the five dredges which were in operation during the month:

DREDGE.	Type.	WORK.		PLANT.		Total.	Remarks.
		Earth.	Rock.	Earth.	Rock.		
		Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*	
Cardenas	Dipper	54,360	7,583			61,943	Place measurement
Badger	Ladder	88,621	3,310			91,931	Place measurement
Marmot	Ladder	92,437	6,181			98,618	Place measurement
Mole	Ladder	17,695	4,950			22,645	Place measurement
Culebra	Suction	240,645				240,645	Scow measurement
Total		493,758	22,024			515,782	

CHAMÉ SAND EXCAVATION.

During the month approximately 35,100 cubic yards of sand were obtained.

HYDRAULIC EXCAVATION PLANT.

The erection of the Agua Dulce pumping station for the hydraulic excavation plant was continued during the month, and the erection of two of the four boilers was completed. The laying of the main discharge pipe was continued, 1,500 linear feet being laid.

BALBOA TERMINAL HARBOR.

Clearing and boring on the site of the proposed terminal harbor at Balboa were continued.

DISTRICT NO. 3—MUNICIPAL AND SANITARY ENGINEERING.

The maintenance and operation of the various municipal plants were continued satisfactorily.

Rio Grande Reservoir—The venturi meter at the Rio Grande reservoir registered an outflow of 107,654,000 gallons of water during the month, or a daily average of 3,472,710 gallons. The elevation of the water in the reservoir on July 31 was 236.26 feet above sea level.

Panama Improvements—During the month the work on the new improvements in the city of Panama progressed satisfactorily.

Palo Seco Reservoir—The 10,000-gallon reinforced concrete reservoir at the Palo Seco leper asylum was practically completed. The water and sewer systems were installed, and all the houses connected to the same.

Pedro Miguel Suspension Bridge—The work of building a suspension bridge over the Pedro Miguel River was begun. All the material necessary was transported to the site, and the main cables were stretched over the river.

DISTRICT NO. 4—ANCON QUARRY.

The Ancon quarry was operated satisfactorily during the month, 43,815 cubic yards of crushed stone being produced. The average hourly output for 137 hours and 30 minutes was 314.4 cubic yards.

Relocation of Panama Railroad.

During the month 206,693 cubic yards of material were excavated, making the total excavation at the close of the month 4,094,746 cubic yards, and 288,021 cubic yards of material were placed in the embankment, making the total at the close of the month 9,144,190 cubic yards.

During the month 413 linear feet of temporary trestle were driven, and the work of constructing bridges and culverts was continued. No permanent track was laid during July, leaving the totals as reported at the end of June, 158,458 linear feet of 70-pound track, and 17,997 linear feet of 90-pound track.

The total force averaged 2,005 men during the month.

Quartermaster's Department.

Labor—The force remained at practically the same strength as during the month of June. Labor conditions continue satisfactory.

Quarters—For the first time, assignments were made on the No. 2 list at Cristobal and Gatun, and the applications on the No. 2 list at Gorgona were materially reduced.

Building Construction—The quarters, hotel, mess and commissary at Porto Bello were completed. At Nombre de Dios 65 houses were completed, and the traveling gang at that point will finish its work before the end of August. The force of artisans in the various districts was materially reduced July 1, and three new traveling gangs of carpenters and one new traveling gang of painters were organized. These gangs are under the direct supervision and control of the Constructing Quartermaster, and experience has demonstrated that repairs can be handled more economically and expeditiously with this organization.

Material and Supplies—The total value of material and supplies received during the month of July was $820,749.50. The total value of material and supplies received during the fiscal year ending June 30, 1910, was $10,103,552.34, and the total value of local purchases during the same period was $2,091,131.02.

Subsistence Department.

The operation of the European laborer's messes, the colored laborers' kitchens and the line hotels showed a net profit of $1,852.15; the operation of the Hotel Tivoli showed a net profit of $87.64, and there was a net profit on restaurants and penitentiary of $225.16. The net profit on subsistence operations was $2,164.95.

Department of Civil Administration.

COURTS.

Six civil and 36 criminal cases were disposed of in the Circuit Courts of the Canal Zone, and 124 civil and 549 criminal cases in the District Courts.

DIVISION OF POSTS, CUSTOMS AND REVENUES.

Money order sales for July amounted to $443,162.08, and the fees to $1,936. Receipts from stamp and card sales and newspaper postage aggregated $6,890.10. The total collections of the Division were $54,090.97, and the collections on account of court fines, costs and fees, $3,255.52. The net revenues of the Zone were $54,591.29.

During the month 19 vessels entered at and 21 vessels cleared from the port of Ancon, and 20 vessels entered at and 20 vessels cleared from the port of Cristobal.

DIVISION OF POLICE AND PRISONS.

The number of arrests during the month was 572, a decrease of 44 as compared with June.

Thirteen convicts were committed to the penitentiary, and 11 were discharged, and on

July 31st, 140 convicts were confined in the penitentiary. The cost of guarding and subsisting the convicts was $2,636.94, and the value of work performed by them was $1,903.70. Their services were utilized in the construction of the Empire-Paraiso road.

DIVISION OF FIRE PROTECTION.

During the month 11 fires were reported in the Canal Zone. The estimated value of property involved in the Zone was $60,200, and the damage was $255 to Government property, and $172 to private property.

DIVISION OF PUBLIC WORKS.

In the city of Panama the average daily consumption of water during the month was 1,073,570 gallons, and in Colon, 846,487 gallons. The usual inspection and maintenance work of this division was performed during the month.

Department of Sanitation.

For employes the death rate during July, 1910, was a little higher than for July, 1909, but less than that for any other preceding July since American occupation.

Year.	Force.	Number of deaths	Rate.
July, 1905...........	11,277	45	46.11
July, 1906...........	28,041	151	64.71
July, 1907...........	38,298	112	35.09
July, 1908...........	44,938	55	14.68
July, 1909...........	45,875	31	8.10
July, 1910...........	51,871	51	11.80

For the estimated total population the rates for the same period were as follows:

Year.	Total population.	Number of deaths	Rate.
July, 1905...........	41,084	237	69.22
July, 1906...........	74,777	422	67.72
July, 1907...........	103,333	357	41.48
July, 1908...........	121,607	295	29.11
July, 1909...........	135,871	207	18.29
July, 1910...........	153,186	287	22.48

During the month of July, 1910, among white employes there were 12 deaths, with an annual average per thousand of 10.37; for colored employes, 39 deaths, with an annual average per thousand of 12.32. Among employes there were 11 deaths from malaria; 8 from lobar pneumonia; 3 from dysentery; 1 from hæmoglobinuric fever; 1 from typhoid fever; 2 from tuberculosis of the lungs; 3 from disseminated tuberculosis, and 11 from other diseases. From external causes, drowning, electrocution, and other traumatisms, there were 11 deaths.

No cases of smallpox, plague or yellow fever originated on or were brought to the Isthmus during the month.

Respectfully,
GEO. W. GOETHALS, *Chairman.*

Canal Zone Humane Society.

The Canal Zone Humane Society held a meeting at the Hotel Tivoli on Sunday afternoon, August 21, with an attendance of 20 members. Officers for the ensuing term were elected as follows: President, Col. W. C. Gorgas; vice-presidents, J. P. Fyffe, Frank Feuille, Mrs. J. D. Williamson; treasurer, F. B. Fearon; secretary, Dr. A. J. Orenstein; directors, Lieut.-Col. Chas. F. Mason, S. E. Blackburn, Rev. Daniel Quijano.

It was proposed that a work horse parade be held on Thanksgiving Day, and the matter was referred to the Board of Directors for further consideration. The society decided to offer a bronze medal for acts of signal bravery in the saving of life in the Canal Zone and Republic of Panama, the award to be made by the directors at a meeting to be held just before the annual meeting of members. Not more than one medal will be given in each year, and in this connection it is requested that all acts of bravery be reported to the secretary of the society. It was also proposed at the meeting that the directors cause a number of hand bills to be printed, both in English and Spanish, setting forth the laws covering the penalties for cruelty to animals, to be distributed among coachmen.

Empire Athletic Meet.

The program for the athletic meet to be held at the Empire baseball park on Labor Day, September 5, is as follows:

100-yard dash (preliminaries and finals).
12-lb. shot put.
220-yard run.
12-lb. hammer throw.
High jump.
440-yard run (preliminaries).
Running broad jump.
440-yard run (finals).
Pole vault.
Mile run.
Two-mile walk.
Relay race, 4 laps, 4 men (one lap, sixth of a mile.)

Gold, silver and bronze medals will be given in all events, except the relay, in which four medals will be given the winning team. An entry fee of 50 cents for the first event and 25 cents for each additional event is charged. Entries will close on August 24, and must be sent, accompanied by entrance fees, to W. E. Burrell, clerk of course, Y. M. C. A., Cristobal, C. Z.

Sailing Date and Accommodations on the Ancon and Cristobal.

The sailing of the steamship *Ancon* from Pier No. 11, Cristobal, has been fixed for 3 p. m., Friday, August 26, 1910.

All available accommodations on the steamships *Ancon* and *Cristobal*, scheduled to sail from Cristobal on August, 26, and on or about September 4, respectively, having been reserved, no further tickets for these sailings can be issued.

Death of Mrs. W. H. Murwin.

Mrs. W. H. Murwin died at Ancon Hospital on August 17 from burns received in the explosion of a gallon of alcohol while she was preparing to get breakfast on an alcohol stove in nonhousekeeping quarters, house 143, Empire, that morning. She was 26 years of age and the wife of W. H. Murwin, who is employed at Gatun, but on account of lack of quarters at that place, was living at Empire. Mr. Murwin was burned about the arms in trying to extinguish the flames, but his injuries are not serious.

Missing Men.

Information is requested as to the whereabouts of Albert Layton, commonly known as "Bone" Layton, believed to be on the Isthmus. Address his mother, Mrs. F. Layton, 1126 M street, Madison, Ind.

Jack Malen (or Walen), a conductor formerly in the employ of the Guatemala Central Railroad, is requested to communicate with E. G. Loveridge of Corozal, who has information of value to impart to him.

H. Carlys left his home in New Orleans about eight weeks ago and has not been heard from since. It is believed that he is on the Isthmus, and any information about him should be addressed to the Acting Agent of the United Fruit Company at Colon.

SOCIAL LIFE OF THE ZONE.

Church Entertainments.

The performance of "The Private Secretary" at the National Theatre, Panama, on the night of August 20 by the Ancon Dramatic Club for the benefit of the organ fund of St. Luke's Church was attended by about 800 people. The net receipts were about $350.

On Monday, September 5, Labor Day, the annual picnic for the children of the Sunday school and the parochial day school of Christ Church, Colon, will be held at Mount Hope. There will be field sports and prizes for contests and refreshments will be served. The schools include 175 pupils.

A euchre party and promenade will be held for the benefit of St. Gayton's church at the Commission hotel in Gorgona on the night of August 27. A special train will be run from Pedro Miguel for the convenience of persons along the line who may care to attend. The arrangements are in charge of the altar society, of which Mrs. W. E. Wade is president, Mrs. S. C. Cate, vice-president, and Mrs. George Gunn, secretary.

Brotherhood of St. Andrew.

On Sunday, September 11, the annual assembly of the Brotherhood of St. Andrew will be held in Christ Church, Colon. There will be an all-day session with services and meetings as follows: At 7.30, parish communion; 9.30, corporate communion of the brotherhood; 10.30, divine service with sermon by the Rev. Arthur C. Peck; 12.30, luncheon in the parish schoolhouse; 2 p. m., assembly conference in the schoolroom; 3 p. m. in the church, meditation, intercession, and consecration; 4 p. m., choral evensong with sermon by the Rev. E. J. Cooper; 7.15, evensong with sermon by the Rev. W. H. Decker. There are 11 chapters of the brotherhood on the Isthmus and delegates will be sent from each. It is expected that more than 100 men will attend the assembly. The assembly chairman is the Rev. E. J. Cooper, rector of Christ Church, Colon, and the chaplain is the Rev. A. C. Peck, rector of St. Paul's, Panama.

Gorgona Tennis Club.

The Gorgona Tennis Club, recently organized for the season 1910-11, with the following officers: President, A. L. Robinson vice-president, J. H. Flynn; secretary-treasurer, William Taylor. Arrangements are being made for the construction of a cement court on the site of the present grass court at the rear of the Commission clubhouse at Gorgona. The membership of the club is limited to 15.

Pythian Dance.

A dance was held at the lodge hall in Las Cascadas on the night of August 19 under the auspices of Balboa Lodge No. 4, Knights of Pythias, Cascade Company No. 3, Uniformed Rank, and Canal Zone Temple No. 1, Pythian Sisters. Special trains from Culebra and Gorgona brought guests from those villages and from Empire and Bas Obispo

Corozal Cricket Club.

The West Indians of Corozal have organized the Corozal Cricket Club, with the following officers: Captain, L. O. Robertson; vice-captain, H. Ellis; treasurer, J. A. Patterson; secretary, W. Passoa; chairman, D. G. Toppin. A complete equipment of bats, gloves and pads has been purchased, and arrangements have been made for a match game on Labor Day, September 5, on the home grounds, with the Panama team. Other matches will be held later.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

CULEBRA.

Following is the standing in the local tournaments:

TENPINS.

Teams.	Woo.	Lost.	Per cent
Lock and Dam	4	2	666
Quartermaster	3	2	600
Miscellaneous	3	3	500
Chairman's Office	1	4	200

High average—Warner, 201; Vogel, 171⅓; McIlvaine, 167⅓.

DUCKPINS

Teams.	Woo.	Lost.	Per cent
Miscellaneous	6	0	1000
Lock and Dam	3	3	500
Quartermaster	2	4	333
Chairman's Office	1	5	166

High average—Coheo, 95; R. Koperski,88 1-9; Vogel, 89⅓.

The bowling committee have decided that a handicap tournament be started September 15, in both small and big pins.

Miss Gay Zenola MacLaren, the next entertainer to come from the States, will give her first entertainment at Culebra on September 1.

A smoker will be given in the hall on Friday, August 26. A good program is promised. All men are welcome.

EMPIRE.

At the members' smoker on Friday evening, August 9 the following program was given:

"The Hypnotist" (a farce in two acts) under the direction of A. O. Ludwig, and taken part in by the following men: Messrs. King, Templeton, Cullen, Smallwood, Robertson and McAnelly.

Recitation—Mr. Brodsky.

Solo and quartet—Messrs. Ross, Conner, Brown and Dickson.

Some interesting facts about the Empire clubhouse—Mr. W. W. Warwick.

Sleight-of-hand work—Mr. C. P. Shore.

The Empire basketball team defeated the Gorgona team on Saturday night, August 20, by a score of 41 to 10. The following players participated in the game: Gorgona—Benton, Leylander, Swanson, Calvit, Hodgson. Empire—Lyons, Eason, Bartholomew, Seaton, McCullough.

At the regular meeting of the council of the Empire clubhouse held last week it was voted to agitate the question of running a special train several nights a week from Las Cascadas to Empire and return, in order to accommodate men from Las Cascadas who wish membership privileges.

On Friday evening, August 26, the literary and debating society will hold its monthly public meeting There will be a discussion of the Nicaraguan situation by Messrs. Hanna and Nicodemus, music by the male quartet, a unique Dutch dance by eight little girls under the direction of Miss Daisy Rudd, a sketch by Mr. Perry Brown, and a solo by Mr. H. W. Dohrmann.

The following 200 scores were bowled during the week ending August 20: Brown, 201, 202; Potter, 225; Shaughnessy 203; Nicodemus 200, 207; Gustavson 200, 202, 221.

GATUN.

A moving picture performance will be given at the clubhouse, Thursday evening, August 25.

At a meeting of the athletic committee held on Tuesday evening, August 23, a captain and the relay teams were selected for the Labor Day meet to be held at Empire.

The committee in charge of the coming bowling tournament met at the Gatun clubhouse on August 21 and formulated a set of rules to regulate the tournament which will begin September 10.

The match game between the first and second bowling teams on August 20 resulted in the second team winning two out of three games. The scores are as follows:

First Team				Second Team			
Durand	165	163	181	Hodges	120	181	189
H'g'ton, C.A	163	135	143	H'g'ton,C.R	134	166	179
DeMoll	169	166	144	Dalton	142	147	203
Soule	164	154	112	Wilson	131	121	131
Barte	167	152	153	Myers	149	156	155
Total	828	770	733	Total	696	771	857

On Saturday evening, August 27, Gorgona's first and second bowling teams will roll Gatun's first and second teams at Gatun.

Sixteen games have been played in the handicap pool tournament which started on August 16. Bailey and Ourand are leading with 100 per cent.

The basketball game played Saturday evening, August 20, between the "Doves" and the "Lambs" resulted in a victory for the "Doves", the score being 36 to 23. The lineup was as follows: "Doves"—Mitchell, Kavan, Conner, Robinson and Ottman. "Lambs"—Ourand, Porter, Wantland, Smith and Brown.

The first meeting of the discussion club will be held on Friday evening, August 26. Mr. Soule will be leader. "Friendship" will be the subject.

GORGONA.

The "Night Owls" handicap bowling torunament closed Monday night, August 15, with the men in the following positions:

	Handicap (Pins)	Played	Won	Lost
McConaughey	0	18	3	15
Hopkins	15	18	11	7
Blackburn	30	18	11	7
Williams	30	18	10	8
Sammetinger	30	18	8	10
Hoover	45	18	7	11
Scheltzer	50	18	11	7

As Scheltzer, Blackburn and Hopkins were tied for first place, they rolled one game to decide the championship. Hopkins won, with Scheltzer second and Blackburn third. Gold, silver and bronze medals go to the winners respectively.

The mariumba players from Guatemala gave a pleasing concert to a large audience on Tuesday night, August 16.

Twenty-eight men have signed for the four-cornered local basketball tournament which began on Monday night, August 22. The four teams will play a game every Wednesday night in the gymnasium. Each team will play a series of three games with the others. The schedule will run until the middle of October.

On Friday evening, August 26, a local entertainment entitled "Sweetheart Days" will be given. The play is new and the players deserve support. Refreshments will be served.

Gorgona took three games from Cristobal in a bowling match on Saturday, August 20. The score follows:

Cristobal				Gorgona.			
Barrett	187	184	143	Roper	179	173	132
Adams	135	154	121	Gaedkie	133	154	189
Hess	174	122	135	Varenkamp	194	160	151
Blackburn	122	125	157	Otis	165	185	191
Weston	150	156	162	King	190	201	132
Total	768	741	718	Total	861	873	795

CRISTOBAL.

The following numbers were given at the members' smoker held on Friday night, August 19: Selections on the mariumba by the Guatemalan quartet; solos by Messrs. Hill, Case, Dayton, Robinson and Thomas; club and wand swinging by Mr. Kramer; character sketches by Mr. Guerard; wrestling match between Mr. Burrell and Mr. Vifquain; fake boxing match between Mr. Poulson and Mr. Simonds. The program closed with a talk by the secretary on the coming membership campaign.

The preliminary track meet which was to have been held last week was postponed until Friday, August 26.

The first of a series of moving picture entertainments was given Monday night, August 22. These entertainments will be a regular feature in the future.

The meeting of the discussion club held on Thursday night, August 25, was led by W. E. Burrell, the subject being "Physical Efficiency."

Max Hoffman, formerly barber at the Hotel Tivoli took up his work as barber at the Cristobal clubhouse on Monday, August 22.

A membership campaign will be begun September 1 to raise the Cristobal Y. M. C. A. membership to 500. Three teams have been formed under the following captains: Goddard, Farrell and Chambers. Each team will be composed of about ten men. Every white American in Colon and Cristobal will have an opportunity to join the Y. M. C. A.

Y. M. C. A. Extension Work at Pedro Miguel.

A social was held in the Pedro Miguel lodge hall on Thursday evening, August 18. The hall was filled and the people were so well pleased with the program that other socials are planned. The program consisted of the following numbers: Solo, Mrs. Ludwig of Empire; songs, by the audience; reading, Buford of Gorgona; male quartet, Kramer, Kersey, Tupper and Case of Culebra; remarks, Safford of Camp Elliott; Indian club swinging, Kramer of Culebra; solo, Mrs. Ludwig; quartet, Kramer, Kersey, Tupper and Case; reading, Buford; songs, audience.

The following vessels arrived at and departed from the port of Balboa during the week ending August 20:

Arrivals—August 16, *Pennsylvania*, from San Francisco; August 19, *Limari*, from south ports; August 18, *Trinculo*, from Port Harford.

Departures—August 14, *Chile*, to south ports; August 17, *San José*, to San Francisco, *Ecuador*, to Guayaquil, *Manavi*, to intermediate ports.

Misdirected Letters.

ANCON, C. Z., August 24, 1910.

The following insufficiently addressed letters originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of addressee:

Anderson, Anton
Anderson, August
Barton, R. C.
Brown, Allen
Brown, Garvey
Corogna, R. H.
Ferguson, Miss Kirby
Gaedke, A. F. W.
Geazel, O. E. (2nd class)
Hall, Mrs. Peter
Hatton, Mrs. Edw.
Hayes, J. H.
Higgins, Herman K. (2nd class)
Longval, G.
Pfeiffer, Adolf
Roberts, Miss Fern (pkg.)
Smith, A. E.
Swabb, Mrs. H. C.
Swain, Hon. J. G.
Terry, Edwin E.
Trill, Capt. Richard E.
Udry, J. W.
Young, Thomas R.

Band Concert.

The Isthmian Canal Commission Band will give a concert at Las Cascadas, C. Z., on Sunday, August 28, 1910, at 6 p. m. The program follows:

1 March—*Bay State Commandery*............Burrell
2 Selection—*The Dollar Princess*..............Fall
3 Oriental Rag—*Turkish Trophies*............Egan
4 Overture—*Amazon*........................Kiesler
5 Medley Selection—*Amina*.............La Farge

Introducing "When Two Love Dearly," "Come After Breakfast," "Too Err Is Human, To Forgive Divine," "I Wish I Had My Old Girl Back Again," "That Teasing Rag," "My Way to Heaven Is Through Your Love, Sweetheart," "I'm Not That Kind of a Girl," and "Amina."

6 Concert Piece—*Among the Lilies*...........Frey
7 Sextet from Lucia....................Donizetti
8 Medley March—*Put On Your Old Gray Bonnet*..............................Wenrich
9 Waltz—*Love Sparks*...................Holzman
10 March—*The Garde*...................Boehnlien

CHAS. E. JENNINGS, *Musical Director.*

The next concert will be given at Gatun, September 4, at 2 p. m.

Family Quarters.

Applications for married quarters on file on August 1, 1910, were as follows:

	No. 1 List.	No. 2* List.
Ancon	2	19
Ancon Hospital	1	5
Balboa	1	41
Bas Obispo	....	1
Corozal	2	28 (1)
Cristobal	1	152
Culebra	2	1
Empire	....	....
Gatun	3	136 (41)
Gorgona	1	63 (27)
Las Cascadas	6	8 (4)
Miraflores	....	1
Paraiso	5	39 (8)
Pedro Miguel	3	....
Porto Bello	2	26
Tabernilla	1	....
Totals	30	493 (81)
July 1	19 (2)	525 (84)
June 1	37 (3)	516 (89)
May 1	72 (22)	520 (85)

*Persons employed prior to January 1, 1908.

The figures in parentheses show the number of applicants already occupying regular or nonhousekeeping family quarters at stations other than those at which applications are filed.

Cable Messages at Half Rate.

THE CANAL RECORD:

You are doubtless aware that all Canal employes are entitled to half rates to New York, for any social or personal cablegrams, which they may wish to send, and that when employes are desirous of enjoying this privilege, the only requirement is, that they present a certificate from an authorized official of the department in which they are employed. Unfortunately, the fact that this certificate must be presented does not appear to be generally known in the Zone, with the result that many inconveniences to employes are constantly taking place. It has occurred to me that THE CANAL RECORD might care to publish a brief extract, or notice, of the above, for the benefit of its Zone readers, who are directly interested.

G. W. MILLER, *Manager.*

Panama, August 18, 1910.

Wm. McAdam has been appointed pro-Consul for the United Kingdom at Colon and Cristobal.

OFFICIAL CIRCULARS.

Changes in Work Requests.

CULEBRA, C. Z., August 16, 1910.

CIRCULAR No. 197-F:

It has been noted that in a number of cases after authority has been granted for work requested on Form 159 C. E. material changes in the work have been made, resulting in corresponding change in cost. All such changes should, likewise, be covered by work request on Form 159 C. E. This is not intended, however, to refer to minor changes in the work which do not materially affect the cost thereof.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Pay of Boilermakers and Machinists.

CULEBRA, C. Z., August 16, 1910.

CIRCULAR No. 299-G:

The following designations and rates of pay are authorized in addition to those published in Circular No. 299:

Designation.	Unit.	Rate of pay.
Boilermakers	Mo.	$135.00
Machinists	Mo.	135.00
Boilermakers (Scaler)	Mo.	100.00

The above designations and rates of pay are authorized only in connection with boilermakers, machinists and boilermakers (scalers) employed in dredge repair gangs.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Oil Containers.

CULEBRA, C. Z., August 16, 1919.

CIRCULAR No. 338-A:

The following amendment to Circular No. 338, covering standard I. C. C. hand oilers and oil containers, is hereby approved:

No. 41. *Locomotive Tallow Pot.* The capacity of this container will be two quarts, instead of two pints as shown in Circular No. 338.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Acting Chief Quartermaster.

CULEBRA, C. Z., August 20, 1910.

CIRCULAR No 342:

Effective August 21, 1910, Lieutenant R. E. Wood will act as Chief Quartermaster during the absence of Lieutenant-Colonel C. A. Devol, on leave.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Acting Resident Engineer.

EMPIRE, C. Z., August 20, 1910.

TO ALL CONCERNED:

Mr. M. W. Tenny will act as Resident Engineer during my absence on leave, beginning August 23, 1910.

A. S. ZINN, *Resident Engineer.*

Approved:
D. D. GAILLARD, *Division Engineer.*

Ice Furnished Without Restriction As to Maximum Quantities.

CRISTOBAL, C. Z., August 23, 1910.

CIRCULAR No. 207-A:

To All Concerned: This department is prepared to furnish ice to families, bachelor quarters, gangs and other departments without restriction as to maximum quantity, except that orders must be for multiples of either ten or twenty-five pounds.

EUGENE T. WILSON, *Subsistence Officer.*

Storekeepers.

CRISTOBAL, C. Z., August 13, 1910.

TO ALL CONCERNED:

Effective the 15th instant, Mr. H. C. Smith is appointed storekeeper, commissary, Culebra; Mr. F. B. Bielaski is appointed storekeeper, commissary, Gorgona; Mr. R. C. Teague is appointed storekeeper, commissary, Balboa.

EUGENE T. WILSON,
Subsistence Officer.

Supplies for Canal Work.

The following steamers with supplies for the Isthmian Canal Commission arrived at the ports of Cristobal and Colon during the week ending August 20, 1910:

Tagus, August 15, from New York, with 45 steel plates for stock.

Benedick, August 16, from Mobile, with 284,940 feet B. M. yellow pine lumber for Atlantic Division.

Panama, August 17, from New York, with 9,652 barrels cement, 18 cases chain hoists for Atlantic Division; 66 bundles boiler tubes for Pacific Division; 10 cases drugs, 104 cases drugs, 90 kegs green soap for Sanitary Department; 85 coils pneumatic tool hose, 325 kegs bolts, 64 cases bolts, 50 cases safety matches, 50 packages handled axes, 40 bundles wooden handles, 14 cases hardware, 20 cases paper napkins, 139 bundles paper, 66 cases drill machinery and tools, 333 crates fire brick for stock; and a miscellaneous cargo, the whole consisting of 11,411 packages, weighing 2,217 tons.

Sarnia, August 17, from New York, with 103 cases bolts for Atlantic Division; 5,000 cases mineral oil for stock.

Ellis, August 17, from New Orleans, with 372 tons dump car parts for Cristobal shops (for erection); 271 barrels fire clay, 75,624 feet B. M. yellow pine lumber for stock.

Ancon, August 17, from New York, with 33,800 barrels cement for Atlantic Division; 82,458 bags cement for Pacific Division.

Atenas, August 18, from New Orleans, with 175 tons dump car parts for Cristobal shops (for erection); 39 packages electrical material, 256 pieces piling for Atlantic Division; 40 crates transformer parts, 9 cases transformer parts, 38,073 feet B. M. oak lumber for Mechanical Division; 25,482 feet B. M. oak lumber, 166 bales cotton waste, 300 crates fire brick for stock.

Kylcakin, August 19, from Mobile, with 592 pieces piling for Atlantic Division; 1,190 pieces piling, 20,257 cross-ties for stock.

Metapan, August 19, from New York, with 26 packages crane parts for Atlantic Division; 125 coils rope, 10 cases tents, 20 bundles tent poles for stock.

Rainfall, August 1 to 20, 1910, Inclusive.

MIDNIGHT TO MIDNIGHT.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	2.51	20	7.57
Balboa	2.14	20	6.83
Miraflores	2.45	20	9.14
Pedro Miguel	2.48	7	7.38
Rio Grande	2.11	7	5.92
Central Section—			
Culebra	1.59	10	6.52
Camacho	1.80	7	7.18
Empire	1.82	10	6.00
Gamboa	1.37	12	5.37
Alhajuela	1.88	17	8.49
El Vigia	1.35	9	8.66
Gorgona	1.65	12	4.27
San Pablo	3.87	12	7.34
Tabernilla	3.43	12	7.57
Bohio	2.66	20	10.53
Monte Lirio	2.23	1	10.25
Atlantic Section—			
Gatun	3.65	20	11.51
Brazos Brook	2.95	12	12.08
Cristobal	3.33	12	13.52
Porto Bello	4.32	10	*16.55

*To 5 p. m., August 19.

Stages of the Chagres.

Maximum heights of the Chagres River for the week ending midnight, Saturday, August 20, 1910. All heights are in feet above mean sea level.

DAY AND DATE	STATION.				
	Vigia	Alhajuela	Gamboa.	Bohio.	Gatun Lake.
Sun. August 14.	129.8	96.4	52.4	19.8	18.7
Mon. August 15	127.6	94.4	48.2	18.6	18.4
Tues. August 16	129.4	95.3	49.1	17.9	17.6
Wed. August 17	131.2	96.6	50.1	18.1	17.5
Thurs August 18	129.8	96.2	50.6	18.3	17.5
Fri. August 19	129.9	96.0	49.6	17.7	17.3
Sat. August 20	144.2	104.8	59.8	20.3	17.6
Height of low water	125.0	92.0	46.0		

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending August 31, 1910 (75th meridian time):

Date.	High.	Low.	High.	Low.	High.
	A. M.	A. M.	A. M.	P. M.	P. M.
August 25	......	12.38	6.43	1.05	7.05
August 26	......	1.25	7.27	1.52	7.50
August 27	......	2.10	8.15	2.43	8.43
August 28	......	3.05	9.08	3.44	9.45
August 29	......	4.09	10.14	4.50	11.02
August 30	......	5.23	11.30	6.04	......
			P. M.		
August 31	12.23	6.39	12.50	7.14	......

Cold Storage Prices.

There are no changes in the prices of cold storage articles sold by the commissaries from those quoted in last week's issue of THE CANAL RECORD.

MOVEMENT OF OCEAN VESSELS.

The following is a list of the sailings of the Panama Railroad Steamship Company, of the Royal Mail Steam Packet Company, of the Hamburg-American Line, and of the United Fruit Company's Line, the Panama Railroad Company's dates being subject to change:

NEW YORK TO CRISTOBAL.

Colon	P. R. R.	Tuesday	Aug. 23
Advance	P. R. R.	Monday	Aug. 29
Panama	P. R. R.	Monday	Aug. 29
Panama	P. R. R.	Saturday	Sept. 3
Allianca	P. R. R.	Saturday	Sept. 10
Colon	P. R. R.	Saturday	Sept. 17
Advance	P. R. R.	Friday	Sept. 23
Panama	P. R. R.	Thursday	Sept. 29
Allianca	P. R. R.	Wednesday	Oct. 5
Colon	P. R. R.	Tuesday	Oct. 11
Advance	P. R. R.	Monday	Oct. 17
Panama	P. R. R.	Saturday	Oct. 22

CRISTOBAL TO NEW YORK.

Ancon	P. R. R.	Friday	Aug. 26
Allianca	P. R. R.	Monday	Aug. 29
Colon	P. R. R.	Monday	Sept. 5
Advance	P. R. R.	Saturday	Sept. 10
Panama	P. R. R.	Friday	Sept. 16
Allianca	P. R. R.	Thursday	Sept. 22
Colon	P. R. R.	Thursday	Sept. 29
Advance	P. R. R.	Wednesday	Oct.
Panama	P. R. R.	Tuesday	Oct. 11
Allianca	P. R. R.	Monday	Oct. 17
Colon	P. R. R.	Sunday	Oct. 23
Advance	P. R. R.	Saturday	Oct. 29

A fortnightly service of the *Cristobal* and *Ancon* will be maintained as nearly as possible, leaving Cristobal on or about the 4th and 25th of each month. Due notice of the sailings of these ships from the Isthmus will be given. On the outward voyage these ships sail from the pier at the foot of 12th street, Hoboken, N. J.

NEW YORK TO COLON.

Zacapa	U. F. C.	Thursday	Aug. 18
Oruba	R.-M.	Saturday	Aug. 20
Almirante	U. F. C.	Thursday	Aug. 25
Prinz Aug. Wilhelm	H.-A.	Saturday	Aug. 27
Santa Marta	U. F. C.	Thursday	Sept. 1
Magdalena	R.-M.	Saturday	Sept. 3
Metapan	U. F. C.	Thursday	Sept. 8
Zacapa	U. F. C.	Thursday	Sept. 15
Clyde	R.-M.	Saturday	Sept. 17
Almirante	U. F. C.	Thursday	Sept. 22
Santa Marta	U. F. C.	Thursday	Sept. 29
Atrato	R.-M.	Saturday	Oct. 1
Metapan	U. F. C.	Thursday	Oct. 6
Tagus	R.-M.	Saturday	Oct. 15

COLON TO NEW YORK.

Magdalena	R.-M.	Wednesday	Aug. 24
Metapan	U. F. C.	Friday	Aug. 26
Prinz Joachim	H.-A.	Tuesday	Aug. 30
Zacapa	U. F. C.	Friday	Sept. 2
Clyde	R.-M.	Wednesday	Sept. 7
Almirante	U. F. C.	Friday	Sept. 9
Santa Marta	U. F. C.	Friday	Sept. 16
Atrato	R.-M.	Wednesday	Sept. 21
Metapan	U. F. C.	Friday	Sept. 23
Zacapa	U. F. C.	Friday	Sept. 30
Tagus	R.-M.	Wednesday	Oct. 5
Almirante	U. F. C.	Friday	Oct. 7

NEW ORLEANS TO COLON.

Turrialba	U. F. C.	Saturday	Aug. 20
Abangarez	U. F. C.	Saturday	Aug. 27
Atenas	U. F. C.	Saturday	Sept. 3
Turrialba	U. F. C.	Saturday	Sept. 10
Abangarez	U. F. C.	Saturday	Sept. 17
Atenas	U. F. C.	Saturday	Sept. 24

COLON TO NEW ORLEANS.

Turrialba	U. F. C.	Thursday	Sept. 1
Abangarez	U. F. C.	Thursday	Sept. 8
Atenas	U. F. C.	Thursday	Sept. 15
Turrialba	U. F. C.	Thursday	Sept. 22
Abangarez	U. F. C.	Thursday	Sept. 29

COLON TO BARBADOS, CALLING AT TRINIDAD.

Oruba	R.-M.	Tuesday	Aug. 30
Magdalena	R.-M.	Monday	Sept. 13

The next sailing of the Leyland Line will be as follows: *Memphian*, on or about September 11 for New Orleans, via Kingston, Ja.

Hamburg-American steamers leave for New York at 10 a. m., and for Port Limon every Tuesday or Wednesday.

Royal Mail steamers leave for New York on alternate Wednesdays at 10 a. m.; for Southampton on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans leave on Thursday at 3 p. m., and for New York on Friday at 10 a. m.

Sailings of the French Line (Cie Generale Transatlantique) for Venezuelan ports, Martinique and Guadeloupe on the 3d and 20th of each month.

Date Due

Due	Returned	Due	Returned
JAN 0 7 1991	DEC 2 8 1990		

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